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# Minor Planet Ce



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## MPEC 2012-H75 : DAILY ORBIT UPDATE (2012 APR. 27 UT)

The following [Minor Planet Electronic Circular](#) may be linked-to from your own Web pages, but must not otherwise be [redistributed electronically](#).

A form allowing access to any MPEC is at [the bottom of this page](#).

[Read MPEC 2012-H74](#)

M.P.E.C. 2012-H75

Issued 2012 Apr. 27, 06:03 UT

The Minor Planet Electronic Circulars contain information on unusual minor planets and routine data on comets. They are published on behalf of Commission 20 of the International Astronomical Union by the Minor Planet Center, Smithsonian Astrophysical Observatory, Cambridge, MA 02138, U.S.A.

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DAILY ORBIT UPDATE (2012 APR. 27 UT)

Update to [MPEC 2012-H71](#)

Full-precision elements for the objects listed here are available at <http://www.minorplanetcenter.org/iau/MPCORB.html>

New identification:

K12F32P K05YF7O K07E95S

MPCS

New multiple-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Opp	C
J96R07E	16.7	0.15	K123E	254.556	155.352	171.808	13.934	0.18276	2.62007	5	X
J97W56H	18.1	0.15	K123E	144.854	17.995	25.790	8.549	0.12372	2.19303	3	X
J98T14L	16.5	0.15	K123E	146.031	211.564	193.905	5.287	0.09879	3.09273	6	X
J98U25W	16.0	0.15	K123E	224.745	157.764	194.001	13.603	0.29129	3.02283	6	X
J98X04Y	16.5	0.15	K123E	42.423	60.768	58.121	30.224	0.37425	2.60676	4	X
J99CF4H	7.8	0.15	K123E	94.616	246.856	164.672	0.844	0.01366	43.04657	3	W
K00C32D	17.6	0.15	K123E	11.287	29.867	139.420	24.471	0.23253	1.79091	3	X
K00P29W	8.3	0.15	K123E	77.371	88.240	148.001	1.757	0.05789	44.22972	3	W
K00Q63F	16.6	0.15	K123E	244.647	203.678	134.767	13.591	0.19325	2.65766	7	X
K00QE5C	15.9	0.15	K123E	272.073	158.173	158.891	18.304	0.21320	2.63906	6	X
K00QM6E	6.1	0.15	K123E	249.578	351.875	118.469	1.192	0.08200	44.17872	4	W
K00S81U	15.8	0.15	K123E	251.856	152.162	181.886	14.019	0.10814	2.68442	6	X
K00SY6Z	15.7	0.15	K123E	255.059	54.405	263.312	15.712	0.20566	2.69794	5	X
K00Sa7H	16.4	0.15	K123E	253.968	31.529	286.225	12.102	0.16635	2.66139	4	X
K01B53P	17.0	0.15	K123E	3.861	69.780	116.512	7.446	0.24652	2.34412	5	X
K01H13X	18.6	0.15	K123E	312.761	84.784	195.708	3.192	0.36736	2.36861	3	X
K01QT7Z	6.9	0.15	K123E	40.474	261.581	16.020	1.855	0.06363	44.35412	6	W
K01R97H	16.6	0.15	K123E	129.072	73.386	340.970	2.976	0.13881	2.59794	6	X
K01RE3Z	6.4	0.15	K123E	353.454	32.283	8.304	2.121	0.06952	44.34527	5	W
K01RE6G	16.7	0.15	K123E	299.746	39.838	241.697	11.200	0.25293	2.46208	3	X
K01SA0P	17.1	0.15	K123E	257.276	118.327	189.683	12.088	0.05663	2.54228	5	X
K01SQ9Z	19.6	0.15	K123E	335.169	190.407	99.177	2.464	0.66348	2.36253	3	X
K01SW6B	16.2	0.15	K123E	125.648	66.729	354.143	29.343	0.07947	2.60951	4	X
K01SW6K	16.5	0.15	K123E	149.088	202.150	199.040	6.137	0.11081	2.57126	6	X
K01T12N	16.1	0.15	K123E	140.141	17.780	33.463	14.019	0.18269	2.65536	4	X
K01T76U	16.5	0.15	K123E	159.262	354.468	41.690	3.621	0.26504	2.63170	4	X

Minor Planets	K01T00Y	16.2	0.15	K123E	97.899	65.435	29.034	14.138	0.06436	2.66191	5	X
Comets	K01U48F	16.2	0.15	K123E	117.336	7.182	58.237	8.741	0.22909	2.68240	5	X
Animations	K01UC2K	15.7	0.15	K123E	80.979	224.017	225.040	34.427	0.23744	2.74144	4	X
<b>General</b>	K01XI7J	15.9	0.15	K123E	74.751	199.670	271.461	14.692	0.11003	2.76412	4	X
MPC Blog	K01YB7G	15.9	0.15	K123E	102.441	350.036	102.958	15.165	0.14071	2.74519	4	X
Contact Us	K02A54L	16.2	0.15	K123E	41.130	26.990	125.350	9.834	0.09219	2.76479	6	X
Index	K02AH3L	16.9	0.15	K123E	58.959	14.908	104.439	3.042	0.19832	2.80578	5	X
Site Map	K02AK9X	17.0	0.15	K123E	111.489	285.320	158.352	14.460	0.07319	2.66532	7	X
<b>Links</b>	K02E51C	16.9	0.15	K123E	133.888	266.018	158.051	4.758	0.06353	2.76012	7	X
Minor Planet Center	K02G04Q	17.5	0.15	K123E	120.362	206.817	194.734	23.999	0.00220	1.86146	4	X
Central Bureau for Astro. Tel.	K02G31V	6.0	0.15	K123E	343.252	129.646	59.053	2.183	0.08932	43.95335	5	W
Cometary Science Archive	K02G98E	17.5	0.15	K123E	18.560	323.696	205.736	5.242	0.06535	2.23250	5	X
Smithsonian Astro. Obs.	K02M05Y	16.4	0.15	K123E	286.345	359.179	291.670	9.039	0.16131	3.09161	4	X
	K02M06H	16.0	0.15	K123E	301.857	153.976	127.635	13.192	0.06563	3.08855	5	X
	K02N16M	17.0	0.15	K123E	233.929	236.036	114.913	10.090	0.29006	2.31933	3	X
	K02N39T	15.3	0.15	K123E	302.931	320.479	307.837	9.292	0.11975	3.10524	5	X
	K02N48S	15.9	0.15	K123E	297.351	174.141	127.138	10.025	0.23778	3.04291	4	X
	K02N59L	15.6	0.15	K123E	243.334	206.066	137.972	17.020	0.16649	3.16441	5	X
	K02O07M	16.1	0.15	K123E	301.184	111.104	172.406	16.798	0.19732	3.11039	4	X
	K02O09E	17.1	0.15	K123E	204.751	174.579	184.273	4.973	0.21550	2.36174	5	X
	K02O26C	15.5	0.15	K123E	279.974	188.309	129.928	13.517	0.13631	3.09715	5	X
	K02O35U	15.9	0.15	K123E	353.877	302.723	258.492	9.777	0.10106	3.18250	6	X
	K02P68M	17.6	0.15	K123E	244.763	150.695	174.120	5.251	0.15779	2.33662	6	X
	K02P80D	15.4	0.15	K123E	279.406	24.235	278.729	16.653	0.20256	3.15045	3	X
	K02PA1J	15.5	0.15	K123E	271.029	42.743	262.084	11.149	0.15463	3.12855	5	X
	K02PF7C	15.9	0.15	K123E	266.088	338.647	323.106	8.643	0.07099	3.16616	6	X
	K02PH6Z	17.8	0.15	K123E	221.909	161.371	184.402	6.807	0.14016	2.34502	5	X
	K02PI0N	15.8	0.15	K123E	264.943	343.808	317.672	17.123	0.10442	3.18343	4	X
	K02PI4L	15.9	0.15	K123E	237.300	227.040	121.352	15.149	0.15788	3.17059	6	X
	K02PJ5J	16.4	0.15	K123E	300.195	157.498	129.960	13.828	0.18990	3.06859	4	X
	K02PJ6E	15.7	0.15	K123E	295.173	187.256	110.055	11.738	0.12704	3.11422	5	X
	K02Q01N	15.4	0.15	K123E	257.543	207.748	131.229	13.706	0.12980	3.11035	6	X
	K02Q72V	16.4	0.15	K123E	303.025	303.781	340.321	14.968	0.24163	3.08878	5	X
	K02Q89E	16.5	0.15	K123E	341.268	77.074	159.334	16.711	0.19285	3.11830	3	X
	K02Q98P	15.8	0.15	K123E	332.137	119.107	133.580	13.271	0.12530	3.14107	3	X
	K02QA7D	15.7	0.15	K123E	252.166	195.964	141.586	12.226	0.14465	3.13742	6	X
	K02R31W	15.0	0.15	K123E	279.291	314.997	341.301	22.516	0.14389	3.21036	5	X
	K02R37R	17.8	0.15	K123E	263.105	117.029	197.898	4.457	0.21896	2.32672	4	X
	K02R53R	16.7	0.15	K123E	148.685	287.433	112.275	3.681	0.25006	2.43661	5	X
	K02R70P	15.9	0.15	K123E	232.970	156.993	188.366	15.399	0.18675	3.21257	4	X
	K02RJ0T	17.5	0.15	K123E	263.027	305.078	15.056	7.160	0.30528	2.31493	3	X
	K02RK4G	17.9	0.15	K123E	262.462	111.840	204.254	1.911	0.24384	2.32290	5	X
	K02R07R	16.4	0.15	K123E	252.209	319.398	0.767	4.743	0.18923	3.19416	3	X
	K02RO9Z	18.0	0.15	K123E	257.446	114.183	202.029	6.179	0.12339	2.34992	5	X
	K02S13T	16.3	0.15	K123E	160.635	107.986	286.373	13.660	0.16139	2.42944	5	X
	K02S29E	17.1	0.15	K123E	227.631	150.275	197.242	4.011	0.26146	2.36707	6	X
	K02T03U	17.0	0.15	K123E	220.697	312.491	39.467	3.948	0.22493	2.38259	3	X
	K02T39E	16.5	0.15	K123E	223.443	318.494	32.176	9.737	0.23161	2.39288	5	X
	K02T69G	18.3	0.15	K123E	174.025	176.692	201.429	23.258	0.09104	1.93927	3	X
	K02T84G	15.6	0.15	K123E	261.073	291.271	40.958	14.856	0.30723	3.18598	3	X
	K02TM4O	17.3	0.15	K123E	239.454	298.659	35.595	3.134	0.24186	2.37662	5	X
	K02TN4O	15.1	0.15	K123E	265.734	96.665	229.174	23.613	0.32977	3.18635	4	X
	K02Tb1O	16.6	0.15	K123E	244.259	224.419	167.617	15.320	0.21195	3.16525	4	X
	K02U09X	16.5	0.15	K123E	198.512	308.137	56.032	7.631	0.13403	2.42674	6	X
	K02U48F	15.4	0.15	K123E	265.519	140.906	201.875	26.875	0.26127	3.20636	7	X
	K02XB6K	16.8	0.15	K123E	42.674	159.526	344.367	12.671	0.10801	2.67084	4	X
	K03A69B	17.1	0.15	K123E	34.097	59.912	100.351	10.142	0.20953	2.60181	4	X
	K03A78D	16.2	0.15	K123E	96.532	44.495	42.005	8.468	0.16476	2.58569	5	X
	K03B55K	16.7	0.15	K123E	22.655	51.827	120.435	14.769	0.18810	2.62284	2	W
	K03B66Q	16.2	0.15	K123E	111.117	295.620	147.587	14.436	0.14685	2.59613	7	X
	K03C10W	16.6	0.15	K123E	105.090	240.841	188.567	5.790	0.29748	2.59993	5	X
	K03D22L	16.5	0.15	K123E	356.660	89.722	130.834	12.247	0.13685	2.61732	3	X
	K03G43E	16.3	0.15	K123E	25.682	68.967	104.953	13.979	0.20360	2.67304	5	X
	K03J14C	16.3	0.15	K123E	354.378	58.238	188.231	13.087	0.22223	2.67615	6	X
	K03Q85G	17.0	0.15	K123E	34.157	117.543	36.382	1.823	0.11222	3.11741	4	X
	K03R13C	17.8	0.15	K123E	214.432	186.068	169.270	4.096	0.19120	2.20082	5	X
	K03R24L	17.6	0.15	K123E	207.820	10.727	341.089	2.103	0.14775	2.21967	7	X
	K03S05L	19.2	0.15	K123E	288.289	279.792	39.913	6.105	0.47373	2.11313	4	X
	K03S49F	17.4	0.15	K123E	221.874	149.582	197.536	4.134	0.19278	2.20926	4	X
	K03S66W	15.1	0.15	K123E	208.208	331.612	28.601	25.412	0.24756	3.11120	4	X
	K03S68G	16.2	0.15	K123E	153.940	189.291	207.654	8.866	0.08837	3.12998	6	X
	K03SB2U	15.8	0.15	K123E	245.024	38.676	283.774	13.129	0.15857	2.99428	5	X
	K03SB9M	18.0	0.15	K123E	268.027	246.513	64.383	3.489	0.23296	2.16369	3	X
	K03SM2V	17.6	0.15	K123E	283.171	75.087	234.575	19.414	0.38935	1.74556	5	X
	K03SN4F	15.7	0.15	K123E	253.750	274.366	40.706	9.721	0.07920	3.07517	7	X
	K03SU2W	15.9	0.15	K123E	168.250	11.509	11.600	15.068	0.17497	3.18741	4	X

K03SW7K	16.9	0.15	K123E	269.119	257.076	40.442	2.485	0.10965	3.04799	6	X
K03SX6Z	15.5	0.15	K123E	129.965	0.876	68.483	21.173	0.06601	3.23069	4	X
K03SX9F	16.2	0.15	K123E	104.347	42.973	49.630	11.076	0.04825	3.18233	3	X
K03SY0G	16.4	0.15	K123E	214.934	314.243	30.019	10.741	0.06384	3.12247	6	X
K03Sd9O	16.4	0.15	K123E	160.838	263.386	137.759	11.752	0.07583	3.19520	4	X
K03Sf0D	18.1	0.15	K123E	53.412	293.350	199.352	4.516	0.06651	2.24890	4	X
K03Sh3K	16.1	0.15	K123E	21.141	140.656	30.835	18.719	0.04141	3.17851	3	X
K03T01G	15.2	0.15	K123E	237.117	71.461	269.151	12.579	0.30954	3.03187	4	X
K03T04J	17.8	0.15	K123E	242.090	154.504	178.616	4.297	0.18148	2.21179	4	X
K03T56A	16.2	0.15	K123E	139.847	359.731	56.592	9.938	0.06746	3.18684	4	X
K03U24D	17.2	0.15	K123E	177.775	336.598	43.342	6.146	0.17644	2.28453	5	X
K03U29P	15.8	0.15	K123E	179.500	347.564	36.907	7.640	0.15835	3.20090	4	X
K03U51G	15.5	0.15	K123E	263.333	344.978	323.694	18.448	0.15264	3.06294	4	X
K03UB6Q	15.6	0.15	K123E	176.376	322.153	63.718	8.513	0.14745	3.18353	3	X
K03UB8U	18.1	0.15	K123E	211.708	283.864	62.685	3.291	0.11971	2.24009	5	X
K03UB9G	15.4	0.15	K123E	279.082	1.909	300.640	16.847	0.22644	2.98013	5	X
K03U15Y	16.9	0.15	K123E	137.064	5.983	51.752	7.442	0.07896	2.27847	4	X
K03UK2N	17.0	0.15	K123E	186.808	319.872	53.979	9.111	0.14836	2.26432	6	X
K03UL2N	17.5	0.15	K123E	209.110	334.569	16.024	3.730	0.19549	2.26009	6	X
K03UN3Z	17.8	0.15	K123E	166.907	187.347	202.471	5.754	0.10718	2.26369	4	X
K03UO3O	17.0	0.15	K123E	178.333	343.785	34.724	3.997	0.21863	2.27447	5	X
K03UO6A	17.6	0.15	K123E	171.313	329.582	56.331	4.180	0.23224	2.27401	4	X
K03UO8B	16.4	0.15	K123E	234.489	309.437	28.501	5.783	0.14913	3.10214	5	X
K03UV7E	17.9	0.15	K123E	87.141	77.338	6.427	4.775	0.19068	2.31250	4	X
K03UZ5U	15.8	0.15	K123E	237.892	306.882	19.562	10.672	0.08062	3.16065	4	X
K03W17S	15.3	0.15	K123E	227.999	248.204	105.989	15.594	0.22426	3.10403	5	X
K03W91K	17.2	0.15	K123E	180.854	181.962	193.037	5.464	0.19142	2.27426	6	X
K03X27N	16.4	0.15	K123E	227.088	269.231	73.078	2.063	0.17795	3.16753	5	X
K03Y29R	14.9	0.15	K123E	222.267	270.796	107.051	20.614	0.23159	3.17860	5	X
K03YE1M	17.2	0.15	K123E	115.482	30.614	33.515	9.478	0.17815	2.36446	4	X
K03YH9P	7.4	0.15	K123E	44.648	3.272	66.116	0.947	0.08303	44.18035	3	W
K04B28M	17.4	0.15	K123E	97.066	2.646	75.454	2.869	0.18298	2.41899	4	X
K04C81S	17.3	0.15	K123E	69.583	147.470	331.647	6.458	0.07357	2.43292	5	X
K04E11O	17.6	0.15	K123E	6.813	172.980	2.439	18.108	0.27039	2.49337	3	X
K04F01T	17.5	0.15	K123E	280.227	87.562	195.008	22.605	0.05326	1.89538	4	X
K04F02R	18.1	0.15	K123E	308.963	245.615	9.093	19.895	0.08229	1.90671	5	X
K04FA6K	17.9	0.15	K123E	329.750	206.584	20.048	20.209	0.04586	1.92046	2	X
K04G34F	16.7	0.15	K123E	330.029	291.023	302.055	8.683	0.15062	2.52810	4	X
K04G46Y	17.5	0.15	K123E	214.940	143.382	202.516	9.713	0.12792	2.53367	5	X
K04H20L	16.4	0.15	K123E	183.702	348.729	23.685	12.957	0.12353	2.52566	5	X
K04J03A	16.6	0.15	K123E	331.681	187.159	52.741	13.371	0.09181	2.53905	3	X
K04J34Q	16.5	0.15	K123E	342.686	150.856	71.039	18.049	0.16232	2.54877	4	X
K04N01U	15.8	0.15	K123E	236.282	37.159	304.634	11.287	0.18663	2.71232	4	X
K04N20A	15.9	0.15	K123E	302.387	342.612	279.665	10.726	0.15339	2.66476	5	X
K04O03K	16.4	0.15	K123E	272.104	2.461	307.494	13.558	0.25328	2.66378	4	X
K04O14V	16.2	0.15	K123E	298.267	192.829	90.760	13.529	0.16456	2.63578	6	X
K04P03C	15.9	0.15	K123E	297.733	302.341	325.146	15.366	0.13761	2.68453	3	X
K04P77N	16.0	0.15	K123E	330.514	90.723	162.662	12.424	0.13128	2.63911	6	X
K04P86Z	16.3	0.15	K123E	280.869	144.678	154.902	12.192	0.04646	2.68794	5	X
K04PA0A	16.5	0.15	K123E	249.656	309.749	24.358	18.214	0.29191	2.77437	3	X
K04PB7U	6.8	0.15	K123E	316.191	339.352	23.149	1.873	0.01710	42.87267	3	W
K04R29O	16.2	0.15	K123E	262.897	190.934	134.992	15.109	0.16021	2.66887	4	X
K04R53Y	16.4	0.15	K123E	224.620	166.795	183.124	9.178	0.16092	2.76663	6	X
K04RK8P	16.2	0.15	K123E	272.500	55.284	268.257	10.030	0.33311	2.67429	5	X
K04RM5O	16.4	0.15	K123E	252.193	335.893	351.874	11.946	0.21400	2.75344	5	X
K04RO6G	16.6	0.15	K123E	297.017	112.764	199.267	12.171	0.19183	2.68353	6	X
K04S10Y	15.8	0.15	K123E	289.289	172.572	138.903	15.575	0.28103	2.64238	4	X
K04S34T	16.4	0.15	K123E	95.759	239.461	208.677	10.087	0.09210	2.90825	3	X
K04T06G	16.6	0.15	K123E	292.408	262.705	35.877	12.474	0.28460	2.65052	3	X
K04T85Z	16.9	0.15	K123E	269.321	106.045	182.564	1.883	0.04117	2.87580	6	X
K04TL2D	16.6	0.15	K123E	238.116	292.189	31.056	12.347	0.05529	2.91490	4	X
K04TN5M	16.5	0.15	K123E	187.437	176.916	198.574	7.559	0.08635	2.92123	5	X
K04Ta9D	16.0	0.15	K123E	65.586	86.918	33.223	7.835	0.09064	3.06950	6	X
K04U05D	16.3	0.15	K123E	251.581	166.131	165.990	14.476	0.20906	2.78370	4	X
K04U10D	6.6	0.15	K123E	148.950	211.643	54.729	3.488	0.03109	43.09641	3	W
K04V27W	15.0	0.15	K123E	231.173	77.569	245.047	21.183	0.02346	3.04250	5	X
K04V38C	15.8	0.15	K123E	68.428	56.058	52.173	10.573	0.19179	3.16069	4	X
K04V38K	16.8	0.15	K123E	173.782	328.819	53.587	2.999	0.07829	3.00259	5	X
K04V42V	16.6	0.15	K123E	42.001	64.477	74.740	2.102	0.15249	3.13779	5	X
K04V46Q	15.4	0.15	K123E	76.394	228.648	228.317	25.631	0.15429	3.18106	4	X
K04V57A	15.0	0.15	K123E	85.052	188.371	251.839	14.123	0.23029	3.20286	5	X
K04X14T	16.2	0.15	K123E	140.429	15.773	35.584	10.515	0.01431	3.06634	6	X
K04X21R	15.1	0.15	K123E	145.744	150.373	255.128	15.903	0.13357	3.08841	4	X
K04X25B	15.5	0.15	K123E	129.321	323.466	93.953	14.201	0.20712	3.12968	4	X
K04X94L	15.7	0.15	K123E	89.786	190.276	272.429	7.752	0.05317	3.17523	6	X
K05B11X	16.4	0.15	K123E	132.931	320.601	104.664	10.576	0.07462	3.17882	5	X

K05C13Y	17.2	0.15	K123E	140.719	300.656	109.555	4.337	0.09424	2.20508	6	X
K05E91F	16.9	0.15	K123E	235.235	13.898	321.800	9.004	0.18974	2.25449	6	X
K05EE8Y	17.5	0.15	K123E	26.892	135.863	33.131	6.727	0.02365	2.28368	5	X
K05EG9T	16.3	0.15	K123E	333.631	119.523	120.196	24.039	0.25713	2.29668	3	X
K05EI1J	17.5	0.15	K123E	58.897	91.680	30.575	6.417	0.11718	2.26788	4	X
K05EJ5V	17.1	0.15	K123E	252.036	135.971	189.287	7.396	0.16162	2.25711	6	X
K05EL3S	17.6	0.15	K123E	312.884	4.097	247.487	0.931	0.14243	2.28860	6	W
K05EM4M	17.7	0.15	K123E	66.557	68.989	46.380	5.203	0.09137	2.26727	3	X
K05EP8K	18.5	0.15	K123E	40.169	290.063	206.634	2.863	0.14607	2.29563	4	X
K05G26A	17.4	0.15	K123E	187.114	341.089	29.800	4.085	0.14460	2.31037	4	X
K05G84M	17.5	0.15	K123E	116.596	267.804	167.595	2.401	0.02595	2.25694	4	X
K05G97A	17.7	0.15	K123E	274.150	123.892	173.035	4.158	0.11906	2.30587	5	X
K05GC6P	17.5	0.15	K123E	251.385	288.046	29.231	7.199	0.12913	2.32942	5	X
K05GC7Z	17.8	0.15	K123E	44.073	292.919	193.206	21.820	0.31004	2.28995	3	X
K05GF2Z	17.0	0.15	K123E	312.127	51.306	203.460	22.495	0.17374	2.32315	3	X
K05GI7D	7.2	0.15	K123E	177.610	346.334	354.489	0.700	0.02046	43.00814	4	W
K05J02C	17.5	0.15	K123E	260.700	111.072	200.736	20.209	0.16218	2.29053	4	X
K05J47M	18.5	0.15	K123E	279.502	128.093	168.540	2.016	0.20722	2.33930	4	X
K05J84M	18.0	0.15	K123E	281.640	67.049	214.291	6.107	0.11753	2.31392	5	X
K05JH8B	18.3	0.15	K123E	8.172	131.270	53.136	2.767	0.15253	2.31307	4	X
K05JI5J	18.0	0.15	K123E	285.119	170.623	127.982	2.997	0.21183	2.33840	4	X
K05M33R	17.6	0.15	K123E	281.963	126.640	164.384	2.361	0.14873	2.42043	5	X
K05N00Q	17.8	0.15	K123E	295.015	349.942	287.611	1.735	0.19379	2.41829	5	X
K05N15W	17.2	0.15	K123E	225.942	250.962	96.896	3.817	0.18815	2.46614	7	X
K05N17N	17.9	0.15	K123E	281.118	174.774	124.898	3.356	0.17989	2.41715	4	X
K05N35Y	17.4	0.15	K123E	290.269	73.945	205.017	6.080	0.16497	2.42588	5	X
K05N40X	17.7	0.15	K123E	298.409	130.858	142.800	1.752	0.16678	2.40572	5	X
K05N46B	17.8	0.15	K123E	312.400	100.869	158.358	1.458	0.15598	2.42101	5	X
K05NA1V	18.2	0.15	K123E	271.055	197.178	113.114	2.564	0.18201	2.43300	3	X
K05O11N	16.7	0.15	K123E	282.979	323.943	327.656	14.584	0.20328	2.44476	3	X
K05O17C	17.2	0.15	K123E	343.474	67.848	166.361	14.555	0.05724	2.44247	5	X
K05Q62D	18.1	0.15	K123E	286.228	242.396	51.425	1.094	0.20194	2.44830	4	X
K05QA0Q	17.5	0.15	K123E	248.368	124.928	204.791	3.386	0.22604	2.48359	5	X
K05QC0O	17.7	0.15	K123E	279.187	290.892	6.907	1.194	0.17736	2.45724	6	X
K05QF5Z	16.7	0.15	K123E	248.154	42.770	277.530	14.123	0.13237	2.54345	5	X
K05QH4W	16.2	0.15	K123E	165.717	189.566	202.114	12.616	0.28109	2.64408	5	X
K05R07U	16.4	0.15	K123E	134.168	222.984	187.166	10.633	0.25504	2.71269	6	X
K05R20U	17.8	0.15	K123E	141.588	223.557	197.700	19.231	0.08828	1.87299	3	X
K05S18N	16.5	0.15	K123E	129.208	49.918	3.865	6.167	0.11721	2.69835	6	X
K05S21S	17.8	0.15	K123E	145.683	218.265	202.369	22.249	0.11987	1.88060	3	X
K05S32Q	17.2	0.15	K123E	236.448	154.076	182.016	9.584	0.13279	2.57447	4	X
K05S69C	16.8	0.15	K123E	174.806	184.338	196.546	11.948	0.19224	2.64274	3	X
K05SB6M	18.2	0.15	K123E	129.823	216.440	205.224	20.124	0.08793	1.89047	4	X
K05SD8M	17.4	0.15	K123E	286.095	125.165	148.145	2.493	0.06850	2.59232	6	X
K05SF9G	16.2	0.15	K123E	115.727	216.280	208.338	24.765	0.06840	2.74328	3	X
K05SG8G	17.7	0.15	K123E	277.290	95.701	200.970	2.416	0.13119	2.52143	5	X
K05SH9R	16.4	0.15	K123E	146.961	220.454	184.857	12.447	0.14107	2.66050	6	X
K05SI9G	16.7	0.15	K123E	40.408	119.017	24.791	8.603	0.09310	2.73425	4	X
K05SL1Y	17.2	0.15	K123E	264.952	79.219	213.062	2.326	0.05159	2.64785	5	X
K05SN7M	16.8	0.15	K123E	261.134	298.592	359.067	3.773	0.06744	2.64959	6	X
K05SO7J	16.9	0.15	K123E	214.483	147.893	203.299	7.117	0.07947	2.61778	5	X
K05SQ5D	17.6	0.15	K123E	237.241	146.398	192.943	14.013	0.16900	2.55296	5	X
K05T15L	18.5	0.15	K123E	256.209	128.278	199.201	20.256	0.13273	1.82453	4	X
K05T24Y	16.7	0.15	K123E	88.595	62.640	35.825	5.349	0.09734	2.76368	5	X
K05T48F	17.0	0.15	K123E	201.970	334.957	29.179	15.743	0.14396	2.60591	4	X
K05T64E	16.2	0.15	K123E	135.460	215.922	202.153	9.414	0.10648	2.70813	6	X
K05TD2Y	15.3	0.15	K123E	44.385	201.125	283.215	10.311	0.22157	3.06939	3	X
K05U14R	17.0	0.15	K123E	294.091	210.283	55.473	3.709	0.03684	2.67323	7	X
K05U18B	16.9	0.15	K123E	158.787	13.967	21.766	5.187	0.11451	2.67982	6	X
K05U38U	16.8	0.15	K123E	119.254	6.097	66.810	4.939	0.08055	2.77379	4	X
K05U42W	16.6	0.15	K123E	153.098	196.411	205.173	11.870	0.14271	2.70519	5	X
K05U46D	16.9	0.15	K123E	161.407	317.275	71.574	3.276	0.08514	2.74261	6	X
K05U46W	17.1	0.15	K123E	191.675	305.829	62.905	7.378	0.05899	2.69816	3	X
K05U84O	17.0	0.15	K123E	299.866	63.341	204.326	2.722	0.14732	2.61209	4	X
K05U88M	17.1	0.15	K123E	176.538	334.315	44.301	6.587	0.05531	2.68646	4	X
K05UB5O	17.1	0.15	K123E	133.901	18.749	37.974	5.497	0.10485	2.73478	4	X
K05UC0N	16.6	0.15	K123E	37.466	120.981	27.399	5.311	0.10914	2.77172	4	X
K05UC6X	16.9	0.15	K123E	215.507	305.485	44.324	6.464	0.14661	2.65018	5	X
K05UE1W	16.1	0.15	K123E	152.194	332.770	67.782	17.984	0.16772	2.72745	5	X
K05UG5P	17.2	0.15	K123E	238.412	288.127	32.650	6.058	0.03149	2.67797	5	X
K05UG9P	17.4	0.15	K123E	250.286	299.938	34.535	6.675	0.23654	2.54870	6	X
K05UH3R	17.0	0.15	K123E	224.636	93.147	240.454	1.078	0.08157	2.68326	7	X
K05UI5Z	17.1	0.15	K123E	261.155	247.737	62.696	4.483	0.08754	2.67057	6	X
K05UJ0Z	17.2	0.15	K123E	260.132	259.261	39.719	6.695	0.03789	2.70251	6	X
K05UK2A	16.9	0.15	K123E	251.629	92.525	216.614	5.243	0.06768	2.69093	6	X
K05UK2H	17.1	0.15	K123E	173.541	172.383	207.044	5.112	0.03713	2.72739	7	X

K05UK3T	17.0	0.15	K123E	90.216	48.966	53.193	3.304	0.04700	2.75276	5	X
K05UM7H	17.6	0.15	K123E	265.491	111.747	205.873	2.643	0.27528	2.53349	4	X
K05UM7Q	16.9	0.15	K123E	184.766	312.860	59.718	2.656	0.09741	2.70266	6	X
K05UM8R	17.1	0.15	K123E	217.564	280.146	67.927	4.269	0.15663	2.64389	5	X
K05UO4V	15.3	0.15	K123E	283.010	18.848	261.596	14.453	0.13878	2.71378	5	X
K05UQ0L	17.6	0.15	K123E	263.844	111.899	199.423	3.869	0.14531	2.60676	4	X
K05UQ9B	16.7	0.15	K123E	89.391	57.624	42.161	5.352	0.07364	2.72108	4	X
K05UR7S	17.6	0.15	K123E	250.175	282.311	46.026	2.801	0.20898	2.56583	6	X
K05US3N	17.2	0.15	K123E	147.223	258.738	144.527	2.993	0.10286	2.71848	5	X
K05UV0T	16.8	0.15	K123E	31.274	106.989	58.549	4.304	0.03647	2.67222	8	X
K05Ub2Y	17.2	0.15	K123E	122.121	38.204	34.217	4.924	0.03694	2.77387	5	X
K05Uh8U	16.5	0.15	K123E	249.732	295.372	27.279	9.322	0.17628	2.57468	4	X
K05Up2L	16.8	0.15	K123E	281.225	244.417	52.996	9.856	0.18668	2.59177	4	X
K05Uq2M	17.4	0.15	K123E	119.935	35.210	39.337	3.745	0.03787	2.63700	5	X
K05V33A	16.1	0.15	K123E	82.607	32.795	76.595	5.172	0.05909	2.80954	7	X
K05V48C	17.7	0.15	K123E	281.474	109.324	195.621	3.603	0.24830	2.52962	5	X
K05V53K	17.3	0.15	K123E	234.875	271.636	61.791	2.898	0.09679	2.64485	4	X
K05W29K	16.5	0.15	K123E	167.677	334.596	58.481	7.292	0.03322	2.75609	5	X
K05W48T	16.3	0.15	K123E	279.037	30.794	260.436	12.538	0.16380	2.71815	4	X
K05W55D	16.8	0.15	K123E	242.136	49.691	262.198	1.357	0.03756	2.78687	6	X
K05W77Y	16.8	0.15	K123E	157.575	338.350	60.400	5.063	0.10512	2.77955	5	X
K05W96E	15.7	0.15	K123E	96.944	15.355	78.627	16.245	0.10597	2.85174	5	X
K05WA4J	16.2	0.15	K123E	137.034	322.065	95.331	5.229	0.09085	2.77485	4	X
K05WA4S	16.0	0.15	K123E	171.814	299.590	88.455	13.852	0.16664	2.73326	5	X
K05WG6S	16.8	0.15	K123E	74.886	35.409	85.533	3.075	0.03250	2.78641	5	X
K05WI0R	17.8	0.15	K123E	67.439	60.202	69.550	22.742	0.09848	1.92048	4	X
K05X54M	17.2	0.15	K123E	129.011	15.868	52.770	5.446	0.03726	2.78556	6	X
K05X56U	16.0	0.15	K123E	98.148	265.915	184.741	10.864	0.10977	2.83276	6	X
K05X76T	17.1	0.15	K123E	210.488	315.225	32.728	5.416	0.07234	2.71240	5	X
K05X92H	15.2	0.15	K123E	28.047	260.387	256.565	15.503	0.20168	3.08497	3	X
K05Y74W	16.3	0.15	K123E	15.066	103.991	92.561	15.838	0.09483	2.85493	6	X
K05Y88V	16.8	0.15	K123E	333.693	340.716	245.290	0.766	0.03717	2.94357	7	X
K05YD8Q	17.1	0.15	K123E	50.048	96.927	43.004	2.307	0.05092	2.97860	4	X
K05YE7M	16.5	0.15	K123E	184.100	341.798	30.675	2.363	0.07956	2.86941	6	X
K05YK0M	16.5	0.15	K123E	304.377	169.223	89.212	3.178	0.04741	2.92379	5	X
K05Y05E	17.2	0.15	K123E	29.755	32.096	114.202	2.514	0.20923	3.06753	4	X
K06A84U	15.1	0.15	K123E	9.007	223.692	314.073	26.559	0.17237	3.12212	3	X
K06B25B	16.1	0.15	K123E	210.907	222.380	131.628	9.668	0.05965	2.90458	4	X
K06B44S	15.8	0.15	K123E	35.524	156.059	343.410	9.321	0.16337	3.20741	3	X
K06B50Z	16.4	0.15	K123E	26.713	111.123	46.394	1.624	0.14501	3.06141	5	X
K06B67V	16.8	0.15	K123E	143.396	359.759	52.578	2.728	0.10098	2.95036	7	X
K06B71Y	16.3	0.15	K123E	133.784	343.987	73.994	4.241	0.13225	2.97579	6	X
K06B88D	16.9	0.15	K123E	349.867	111.630	99.829	2.901	0.07278	3.03735	5	X
K06BB2P	16.3	0.15	K123E	36.238	31.217	127.798	11.201	0.09035	3.04957	5	X
K06BD9M	16.0	0.15	K123E	64.516	328.761	160.983	16.739	0.15634	3.09345	4	X
K06BJ5W	16.4	0.15	K123E	24.772	215.938	309.556	9.149	0.09008	3.10945	3	X
K06BR6X	16.6	0.15	K123E	354.123	136.738	69.849	2.347	0.09344	3.14536	5	X
K06BS0C	16.5	0.15	K123E	54.465	7.793	134.093	12.402	0.04915	3.07678	4	X
K06C63A	15.9	0.15	K123E	53.488	63.353	81.249	23.433	0.19490	3.09749	3	X
K06D06H	15.5	0.15	K123E	35.835	150.092	355.966	17.053	0.16333	3.14933	4	X
K06D09N	15.1	0.15	K123E	18.975	171.551	355.677	15.062	0.20372	3.17361	3	X
K06D27P	15.8	0.15	K123E	280.173	292.186	356.578	15.178	0.08053	3.15405	4	X
K06D56F	15.7	0.15	K123E	98.409	75.627	17.375	8.739	0.03973	3.13400	4	X
K06DA0M	16.7	0.15	K123E	322.129	122.714	119.078	2.555	0.12467	3.12439	5	X
K06DA4N	15.6	0.15	K123E	350.642	227.734	346.064	15.557	0.14636	3.19253	3	X
K06DB4N	15.8	0.15	K123E	62.873	98.239	11.754	25.797	0.23497	3.13009	3	X
K06DC2E	15.5	0.15	K123E	50.014	17.449	132.068	16.283	0.12457	3.11625	4	X
K06DD9X	15.9	0.15	K123E	60.685	67.263	68.182	5.089	0.05766	3.13757	5	X
K06DJ5Y	15.5	0.15	K123E	47.015	51.190	91.331	11.872	0.12575	3.13316	5	X
K06DJ6H	16.1	0.15	K123E	83.825	299.007	163.752	19.413	0.23164	3.03713	5	X
K06F39J	16.0	0.15	K123E	46.348	293.855	201.466	3.900	0.14657	3.16100	5	X
K06F42N	15.0	0.15	K123E	232.713	164.583	195.645	26.547	0.06887	3.12800	4	X
K06G01V	16.4	0.15	K123E	64.935	310.033	181.070	27.220	0.12573	3.12411	3	X
K06G04D	15.5	0.15	K123E	92.646	107.548	343.837	12.940	0.15471	3.12967	4	X
K06G41C	15.5	0.15	K123E	0.664	87.296	158.670	16.867	0.22383	3.09278	4	X
K06P08L	17.9	0.15	K123E	283.412	319.000	332.434	4.600	0.17381	2.17580	5	X
K06P32N	16.8	0.15	K123E	192.562	299.234	69.594	6.044	0.15790	2.29946	5	X
K06Q18X	17.2	0.15	K123E	206.849	339.023	12.309	3.297	0.18080	2.28799	5	X
K06QC6P	17.7	0.15	K123E	206.002	290.254	72.642	2.939	0.16832	2.27433	5	X
K06QC9H	17.5	0.15	K123E	207.400	287.713	66.512	3.163	0.18202	2.29844	4	X
K06QG1V	17.9	0.15	K123E	202.652	201.133	162.622	5.618	0.14679	2.29715	5	X
K06R11O	17.7	0.15	K123E	264.513	146.194	172.347	4.064	0.21113	2.21866	5	X
K06R19F	16.5	0.15	K123E	256.419	294.806	35.664	8.226	0.27766	2.22507	4	X
K06R40K	17.2	0.15	K123E	158.283	303.466	91.986	2.250	0.18777	2.36794	5	X
K06R60A	16.6	0.15	K123E	200.121	160.896	204.196	24.862	0.19888	2.33815	3	X
K06R82U	18.0	0.15	K123E	16.743	335.700	201.326	3.968	0.00882	2.35239	5	X

K06R93W	18.0	0.15	K123E	246.105	109.745	210.273	6.337	0.12786	2.30514	5	X
K06RA7F	18.2	0.15	K123E	29.422	326.580	194.619	4.368	0.09136	2.38761	4	X
K06S36D	16.9	0.15	K123E	267.915	252.733	61.257	5.970	0.19937	2.21590	7	X
K06S41R	17.0	0.15	K123E	169.017	216.572	171.207	4.826	0.16897	2.35479	5	X
K06S60P	17.3	0.15	K123E	238.267	288.314	50.092	9.107	0.20402	2.26329	4	X
K06S76F	17.4	0.15	K123E	129.671	358.419	57.268	2.144	0.15111	2.43516	5	X
K06SD8T	18.2	0.15	K123E	268.459	266.760	51.675	6.833	0.25129	2.19122	4	X
K06SF6M	18.1	0.15	K123E	244.751	154.796	172.414	5.223	0.14329	2.25510	3	X
K06SG1K	17.5	0.15	K123E	274.885	239.626	63.731	2.359	0.18760	2.25308	5	X
K06SK4Y	18.2	0.15	K123E	48.099	101.491	29.815	0.525	0.15863	2.44402	4	X
K06SR9G	17.7	0.15	K123E	230.899	127.493	205.343	6.348	0.12026	2.38417	5	X
K06T10C	17.3	0.15	K123E	222.022	297.586	52.940	6.169	0.18956	2.31281	5	X
K06T19T	17.8	0.15	K123E	248.242	62.832	257.610	1.619	0.16948	2.31182	4	X
K06T22T	17.9	0.15	K123E	271.786	261.968	46.543	7.569	0.24354	2.25992	4	X
K06T29D	17.8	0.15	K123E	260.379	270.236	49.571	2.173	0.27094	2.25205	6	X
K06TB8D	17.4	0.15	K123E	32.710	301.833	150.230	12.171	0.19261	2.73659	3	X
K06U11P	17.8	0.15	K123E	234.079	140.730	197.143	4.581	0.20864	2.30070	4	X
K06U77Y	17.5	0.15	K123E	212.122	18.736	334.687	2.019	0.21322	2.32704	4	X
K06UA7W	17.3	0.15	K123E	184.704	301.373	75.339	4.174	0.13847	2.39712	4	X
K06UC3M	17.5	0.15	K123E	248.503	302.020	23.734	4.803	0.18811	2.26047	5	X
K06UD2V	17.6	0.15	K123E	303.120	42.508	215.276	6.170	0.10641	2.37049	5	X
K06UF6J	18.1	0.15	K123E	293.274	134.699	145.625	3.234	0.14748	2.27716	4	X
K06UF6V	17.5	0.15	K123E	266.820	139.825	172.791	4.355	0.19750	2.25912	5	X
K06UI2J	16.9	0.15	K123E	204.040	218.406	147.837	4.683	0.22578	2.34126	5	X
K06UJ5O	17.3	0.15	K123E	116.847	34.254	34.247	7.265	0.09621	2.44973	4	X
K06US2O	17.2	0.15	K123E	283.490	231.926	53.751	7.753	0.11115	2.35944	7	X
K06V34X	17.6	0.15	K123E	358.241	142.850	49.739	5.265	0.07899	2.47200	5	X
K06V77K	17.4	0.15	K123E	98.452	329.663	115.880	2.401	0.16639	2.51904	4	X
K06W70T	17.3	0.15	K123E	305.521	222.821	39.016	6.043	0.08667	2.39706	5	X
K06W86M	16.2	0.15	K123E	59.254	215.268	247.715	8.438	0.30433	2.67588	5	X
K06WC5Q	16.2	0.15	K123E	10.305	102.038	77.136	13.730	0.19299	2.60084	4	X
K06X01N	17.6	0.15	K123E	250.175	295.621	26.054	1.662	0.19845	2.35038	4	X
K06X50N	16.9	0.15	K123E	209.653	254.844	113.370	15.172	0.14152	2.47201	5	X
K06X55L	16.7	0.15	K123E	34.219	221.757	288.110	10.309	0.13018	2.71025	4	X
K06Y04A	16.8	0.15	K123E	86.412	24.857	74.044	13.470	0.11200	2.60537	4	X
K06Y46D	16.4	0.15	K123E	12.553	254.957	280.147	11.977	0.06953	2.69378	3	X
K07A10V	16.5	0.15	K123E	54.645	24.279	104.649	14.893	0.19511	2.67742	3	X
K07A17P	16.4	0.15	K123E	55.027	358.843	128.931	14.735	0.19307	2.70016	5	X
K07A17X	17.3	0.15	K123E	137.038	0.287	46.623	6.653	0.20893	2.56139	6	X
K07A20Y	16.9	0.15	K123E	9.103	51.869	133.630	4.222	0.13068	2.73898	7	X
K07B11L	17.2	0.15	K123E	17.344	52.788	117.621	10.397	0.20433	2.71988	5	X
K07B35M	16.9	0.15	K123E	304.792	157.811	117.620	13.605	0.14063	2.56227	5	X
K07B43F	17.4	0.15	K123E	56.528	17.624	121.447	1.746	0.04990	2.65406	3	X
K07B58U	16.8	0.15	K123E	47.336	314.764	182.348	3.218	0.13864	2.74559	4	X
K07B63H	17.4	0.15	K123E	74.326	321.270	158.565	2.205	0.05202	2.68422	6	X
K07C14J	17.1	0.15	K123E	57.694	343.803	152.814	14.389	0.10697	2.71307	4	X
K07C20H	17.3	0.15	K123E	70.791	337.984	132.352	9.496	0.17957	2.68875	4	X
K07C53A	16.2	0.15	K123E	19.001	33.327	144.385	9.717	0.08977	2.75100	3	X
K07C56L	16.4	0.15	K123E	26.951	21.819	164.180	10.423	0.04451	2.64455	4	X
K07C56R	16.5	0.15	K123E	35.847	9.182	161.320	13.472	0.09113	2.68405	4	X
K07C65O	16.9	0.15	K123E	154.930	249.414	151.592	13.543	0.18028	2.58853	5	X
K07D12Q	16.1	0.15	K123E	137.607	304.104	123.070	14.589	0.06358	2.70101	4	X
K07D13P	15.9	0.15	K123E	114.331	328.278	99.871	16.542	0.27173	2.65017	3	X
K07D14A	17.6	0.15	K123E	100.034	304.652	146.146	3.420	0.10463	2.63649	4	X
K07D47K	16.2	0.15	K123E	14.582	193.959	341.668	3.476	0.04001	2.77820	5	X
K07D67T	17.4	0.15	K123E	51.944	76.474	67.695	1.258	0.03928	2.77028	6	X
K07D74H	17.1	0.15	K123E	25.995	12.636	158.450	3.414	0.02712	2.76881	7	X
K07D74K	16.7	0.15	K123E	185.253	205.217	165.910	4.886	0.09648	2.74972	5	X
K07D78L	16.5	0.15	K123E	101.232	297.045	150.221	14.266	0.12901	2.67548	7	X
K07E05D	17.3	0.15	K123E	23.022	7.199	163.832	3.012	0.04061	2.74078	4	X
K07E13W	17.0	0.15	K123E	327.964	30.068	205.129	1.245	0.06134	2.84013	7	X
K07E14Q	16.6	0.15	K123E	90.318	299.351	161.401	12.962	0.10536	2.71266	6	X
K07E27W	16.3	0.15	K123E	5.507	61.288	149.558	13.779	0.14882	2.72789	4	X
K07EE6Q	17.3	0.15	K123E	174.776	286.620	99.084	3.362	0.07229	2.77762	5	X
K07EF1J	16.7	0.15	K123E	164.891	359.638	27.856	5.309	0.12228	2.79111	5	X
K07EK5H	16.4	0.15	K123E	199.456	306.060	58.398	6.582	0.07973	2.87492	5	X
K07EL2J	16.2	0.15	K123E	79.544	337.344	131.655	10.990	0.15389	2.75029	3	X
K07G59U	15.9	0.15	K123E	281.864	255.492	32.300	11.184	0.11268	2.99448	5	X
K07H66S	16.0	0.15	K123E	261.828	98.972	203.279	14.561	0.07163	3.10037	4	X
K07H67P	15.8	0.15	K123E	35.811	117.379	44.032	11.284	0.05843	2.90020	4	X
K07H72T	16.9	0.15	K123E	336.251	9.433	209.970	10.969	0.09119	3.02222	3	X
K07H73J	16.9	0.15	K123E	298.572	88.944	186.385	5.089	0.14377	3.00603	4	X
K07H97K	16.2	0.15	K123E	8.305	37.339	159.028	11.410	0.19702	2.98186	5	X
K07J18E	16.2	0.15	K123E	196.356	255.131	120.366	16.436	0.02762	3.04857	4	X
K07L06K	15.8	0.15	K123E	8.257	49.029	147.593	15.387	0.08232	3.02687	5	X
K07L28R	16.6	0.15	K123E	313.094	141.677	115.768	11.322	0.06810	3.05993	3	X

K07VV0D	17.6	0.15	K123E	207.777	304.451	50.751	4.816	0.20648	2.13425	6	X
K07X31K	17.9	0.15	K123E	146.330	299.165	106.960	3.583	0.12660	2.23902	5	X
K07X40U	17.8	0.15	K123E	117.037	36.249	33.002	6.265	0.09677	2.19414	4	X
K07Y56H	18.0	0.15	K123E	86.145	241.908	207.290	0.558	0.17426	2.24358	5	X
K07Y32M	17.8	0.15	K123E	69.351	240.298	231.450	1.733	0.10829	2.24158	3	X
K07Y62O	18.5	0.15	K123E	25.428	236.406	282.229	0.632	0.12119	2.36472	3	X
K07Y63E	17.8	0.15	K123E	358.546	158.672	36.564	2.526	0.12287	2.34435	4	X
K07Y63R	17.7	0.15	K123E	66.675	66.373	59.281	2.478	0.04973	2.31447	5	X
K07Y70F	18.1	0.15	K123E	283.173	142.031	137.717	1.688	0.04084	2.23762	4	X
K08A42F	17.3	0.15	K123E	152.530	168.851	226.719	3.737	0.14776	2.24440	6	X
K08A96Y	17.5	0.15	K123E	351.870	219.529	345.527	6.888	0.06714	2.31969	4	X
K08AB4X	18.2	0.15	K123E	20.988	11.078	155.403	2.592	0.16088	2.36375	5	X
K08B15K	17.3	0.15	K123E	71.709	172.206	302.000	11.852	0.11112	2.34932	3	X
K08C14G	18.0	0.15	K123E	15.745	151.157	19.299	2.660	0.09330	2.41206	5	X
K08C20F	17.5	0.15	K123E	33.291	127.921	9.559	3.575	0.24333	2.43339	4	X
K08C25F	17.7	0.15	K123E	105.913	345.850	87.511	3.051	0.20433	2.36108	4	X
K08C77Y	17.9	0.15	K123E	25.874	113.015	44.829	3.252	0.15878	2.43175	3	X
K08C83W	18.0	0.15	K123E	352.747	185.133	16.620	2.487	0.14593	2.41790	4	X
K08C91L	18.2	0.15	K123E	343.277	220.850	348.914	0.829	0.12981	2.42221	4	X
K08CA2Y	18.0	0.15	K123E	273.865	107.026	187.926	5.945	0.15051	2.30315	5	X
K08CD0B	17.7	0.15	K123E	109.082	262.529	167.326	2.538	0.15729	2.35386	6	X
K08CF0F	18.1	0.15	K123E	23.981	309.831	214.503	2.244	0.02865	2.41296	3	X
K08CJ6X	17.7	0.15	K123E	302.862	42.992	222.779	1.006	0.16444	2.36585	5	X
K08D01N	18.2	0.15	K123E	58.336	249.184	229.482	0.818	0.13267	2.38586	5	X
K08D03U	17.5	0.15	K123E	347.024	181.015	24.644	3.158	0.11975	2.41575	6	X
K08D27R	18.0	0.15	K123E	296.241	171.930	102.067	3.370	0.13448	2.29043	5	X
K08D36F	17.1	0.15	K123E	297.317	286.538	354.924	15.575	0.17500	2.43044	4	X
K08D37A	16.9	0.15	K123E	33.536	59.005	116.101	10.570	0.06484	2.33995	5	X
K08D55K	17.9	0.15	K123E	65.270	301.634	174.995	6.223	0.15332	2.41716	5	X
K08D69X	18.3	0.15	K123E	45.003	226.311	267.739	0.374	0.12707	2.42907	4	X
K08D70Y	17.1	0.15	K123E	341.496	168.682	50.919	12.172	0.07746	2.38099	5	X
K08E79Z	17.9	0.15	K123E	43.052	52.427	89.683	2.377	0.13245	2.46219	6	X
K08EB6C	17.8	0.15	K123E	338.260	43.123	179.037	6.386	0.06724	2.44968	6	X
K08F10Y	17.3	0.15	K123E	287.197	207.787	86.742	3.318	0.20403	2.36263	7	X
K08F11M	17.8	0.15	K123E	338.713	223.504	355.796	1.284	0.13455	2.40531	7	X
K08F57N	17.1	0.15	K123E	273.268	151.300	158.121	2.960	0.21839	2.56179	5	X
K08F76W	17.2	0.15	K123E	269.385	150.981	159.262	12.895	0.17456	2.37183	5	X
K08F96N	17.4	0.15	K123E	21.585	336.836	184.302	7.118	0.22092	2.54283	4	X
K08G42X	18.3	0.15	K123E	37.437	316.679	192.864	2.363	0.11314	2.47951	4	X
K08G72F	18.4	0.15	K123E	10.155	307.863	232.120	0.617	0.13119	2.48624	5	X
K08G82P	16.8	0.15	K123E	280.730	242.110	44.149	10.769	0.09273	2.52107	5	X
K08GA0F	17.3	0.15	K123E	356.847	159.560	36.896	8.755	0.16781	2.54505	3	X
K08GA0L	16.8	0.15	K123E	252.424	124.427	203.583	13.211	0.22517	2.56724	5	X
K08GC3N	16.3	0.15	K123E	138.506	189.746	208.193	7.487	0.26370	2.54890	5	X
K08GC8Z	17.6	0.15	K123E	294.982	244.489	48.771	5.676	0.28690	2.57642	5	X
K08GC9U	16.2	0.15	K123E	10.607	56.284	131.670	13.609	0.11283	2.53239	4	X
K08H09F	17.6	0.15	K123E	41.105	356.713	151.856	10.609	0.12612	2.55080	4	X
K08H19O	17.1	0.15	K123E	344.094	62.076	155.955	11.064	0.12654	2.58028	4	X
K08H34L	17.6	0.15	K123E	343.609	86.721	132.662	11.235	0.08008	2.57370	5	X
K08H56D	17.7	0.15	K123E	330.175	128.933	114.093	10.472	0.16264	2.57668	3	X
K08J07K	16.9	0.15	K123E	292.082	179.588	104.438	10.536	0.15809	2.59852	4	X
K08J11O	17.5	0.15	K123E	321.379	161.722	83.243	5.099	0.12272	2.59563	4	X
K08J15B	17.1	0.15	K123E	292.453	125.880	155.391	4.856	0.14955	2.58106	5	X
K08J21J	16.5	0.15	K123E	307.231	280.829	350.975	16.111	0.23787	2.56046	2	X
K08J35U	15.8	0.15	K123E	243.515	220.410	144.194	12.865	0.28837	2.57082	4	X
K08K12Z	17.5	0.15	K123E	307.515	122.183	145.268	2.497	0.16688	2.58327	4	X
K08K27T	17.0	0.15	K123E	312.978	98.473	162.608	6.145	0.16832	2.56497	3	X
K08K30G	16.8	0.15	K123E	292.784	137.773	169.061	13.073	0.17984	2.53879	4	X
K08L15L	16.1	0.15	K123E	128.858	347.947	81.125	16.725	0.04574	2.66034	6	X
K08M01T	15.8	0.15	K123E	240.321	79.756	240.052	15.749	0.11325	2.85251	3	X
K08P06N	16.0	0.15	K123E	301.539	354.089	277.046	12.944	0.19997	2.80855	4	X
K08P10B	15.8	0.15	K123E	245.651	181.833	168.537	15.572	0.14299	2.86294	5	X
K08Q10X	16.1	0.15	K123E	307.105	159.511	168.778	14.427	0.26828	2.64254	6	X
K08Q16J	15.7	0.15	K123E	245.315	213.888	126.897	13.815	0.18492	3.03429	4	X
K08Q21G	15.3	0.15	K123E	272.493	357.040	297.054	9.980	0.07608	3.11373	5	X
K08Q21J	15.4	0.15	K123E	232.136	14.410	324.013	21.911	0.18247	3.13823	3	X
K08Q43Z	17.2	0.15	K123E	287.907	286.942	27.938	15.648	0.38580	2.75860	3	X
K08R83E	16.7	0.15	K123E	262.142	99.453	207.242	3.371	0.10285	3.09019	6	X
K08R97D	16.2	0.15	K123E	288.176	297.044	356.637	3.231	0.23962	3.08049	5	X
K08RD2F	15.8	0.15	K123E	251.675	203.778	143.059	13.881	0.15847	3.01964	5	X
K08S30M	16.0	0.15	K123E	309.492	121.986	155.092	12.989	0.07929	2.85694	5	X
K08SG4Z	16.5	0.15	K123E	304.752	117.409	189.845	19.187	0.36384	2.76890	4	X
K08SH4M	15.8	0.15	K123E	296.340	306.802	340.574	13.931	0.19224	3.04162	4	X
K08SO3V	18.1	0.15	K123E	176.349	320.847	55.572	22.362	0.09243	1.79110	2	S
K08SR4C	16.2	0.15	K123E	260.247	133.998	185.239	25.135	0.12353	3.16773	4	X
K08SS5X	15.6	0.15	K123E	257.044	211.194	117.931	11.703	0.22266	3.14160	5	X

K08ST9K	15.9	0.15	K123E	298.928	99.481	184.144	8.014	0.21752	3.11912	5	X
K08T06L	15.6	0.15	K123E	255.909	291.564	38.375	26.679	0.24245	3.19850	5	X
K08T09P	16.0	0.15	K123E	277.347	266.774	29.754	3.578	0.15224	3.21419	5	X
K08T58X	15.5	0.15	K123E	43.784	74.771	71.052	2.580	0.06266	3.93232	4	X
K08T92T	16.6	0.15	K123E	286.160	282.200	16.951	10.029	0.26461	2.98731	5	X
K08Ua3U	15.1	0.15	K123E	281.805	201.639	98.955	20.390	0.19368	3.23563	5	X
K09C00J	17.9	0.15	K123E	202.055	3.441	351.207	18.133	0.05332	1.90509	3	X
K09C02U	17.7	0.15	K123E	161.472	251.028	141.321	24.273	0.09660	1.89991	4	X
K09M00K	16.6	0.15	K123E	237.663	50.900	282.076	13.915	0.17868	2.39354	3	X
K09N00V	16.1	0.15	K123E	204.137	224.575	143.437	14.972	0.19214	2.45606	3	X
K09O00M	17.5	0.15	K123E	265.700	358.253	318.666	1.109	0.24915	2.29898	5	X
K09O01P	18.4	0.15	K123E	286.676	14.253	271.675	0.553	0.19230	2.33740	4	X
K09O17J	16.4	0.15	K123E	218.885	58.026	279.277	11.420	0.06511	2.58344	5	X
K09P02H	16.1	0.15	K123E	155.028	90.880	306.618	13.425	0.19666	2.73698	5	X
K09P04R	15.5	0.15	K123E	139.895	82.261	319.460	13.804	0.15158	2.84881	6	X
K09P10T	17.7	0.15	K123E	238.744	111.033	218.303	1.796	0.20651	2.45915	4	X
K09P11U	17.7	0.15	K123E	259.178	316.538	359.457	2.012	0.22002	2.43117	4	X
K09P15D	17.9	0.15	K123E	269.073	148.909	162.386	1.256	0.20041	2.35610	6	X
K09P15P	16.6	0.15	K123E	176.605	187.649	190.714	5.819	0.05997	2.77184	6	X
K09P15R	16.2	0.15	K123E	26.740	7.916	177.646	15.686	0.06948	2.59849	5	X
K09P17A	16.0	0.15	K123E	273.558	218.594	87.112	24.843	0.20683	2.38317	2	X
K09P19K	17.5	0.15	K123E	297.945	31.152	244.251	0.403	0.21364	2.42648	4	X
K09Q19R	17.8	0.15	K123E	269.317	21.049	279.145	0.557	0.16418	2.39673	4	X
K09Q20U	17.1	0.15	K123E	273.264	330.589	326.288	9.219	0.11559	2.39248	6	X
K09Q22F	17.3	0.15	K123E	262.384	187.773	128.354	2.030	0.19742	2.40843	7	X
K09Q38C	17.1	0.15	K123E	220.178	191.909	163.449	15.301	0.13731	2.59087	6	X
K09Q57R	16.7	0.15	K123E	204.481	334.478	18.215	5.172	0.04794	2.70968	7	X
K09Q58V	16.9	0.15	K123E	316.245	221.133	23.690	3.712	0.04893	2.65748	5	X
K09Q62X	17.9	0.15	K123E	312.833	107.070	164.507	9.572	0.17459	2.33793	4	X
K09R00F	17.7	0.15	K123E	265.087	83.353	226.400	0.735	0.18491	2.41816	4	X
K09R00Q	17.6	0.15	K123E	259.530	133.736	186.422	4.870	0.22396	2.41469	2	X
K09R12T	16.7	0.15	K123E	197.623	182.306	183.325	11.817	0.12025	2.76723	4	X
K09R14Y	16.1	0.15	K123E	116.267	236.344	191.461	12.584	0.14505	3.18057	6	X
K09R23U	17.1	0.15	K123E	95.575	295.721	165.384	2.275	0.04119	2.83884	6	X
K09R31J	16.3	0.15	K123E	109.769	204.293	226.503	4.576	0.14323	3.23679	4	X
K09R34R	16.9	0.15	K123E	276.330	95.230	200.424	14.852	0.08490	2.72041	4	X
K09R35V	16.2	0.15	K123E	123.326	230.039	201.962	14.981	0.08456	3.11017	4	X
K09R44D	16.7	0.15	K123E	242.779	98.239	217.934	4.556	0.06615	2.79542	4	X
K09R55D	15.7	0.15	K123E	156.668	202.964	191.921	10.019	0.09744	3.05539	3	X
K09R59E	16.7	0.15	K123E	209.712	169.299	180.671	4.212	0.08717	2.75784	5	X
K09R71E	16.5	0.15	K123E	120.779	300.129	118.247	2.371	0.16661	3.18286	7	X
K09R74D	16.2	0.15	K123E	111.431	242.434	197.328	12.411	0.08649	3.10266	3	X
K09R74K	17.4	0.15	K123E	278.796	261.578	38.017	3.551	0.19131	2.42024	9	X
K09S27J	16.9	0.15	K123E	210.946	175.021	188.389	6.322	0.23328	2.63491	6	X
K09S36J	16.0	0.15	K123E	105.449	228.954	212.058	9.511	0.06973	3.13065	6	X
K09S47M	16.0	0.15	K123E	153.482	27.805	6.791	8.693	0.08843	3.11513	3	X
K09S68E	16.0	0.15	K123E	104.145	23.877	59.517	7.285	0.10642	3.23064	5	X
K09S87U	16.6	0.15	K123E	351.053	95.367	116.302	3.229	0.01090	2.88688	4	X
K09SA8B	15.9	0.15	K123E	169.053	180.374	207.101	8.732	0.27986	3.05558	4	X
K09SD0P	16.5	0.15	K123E	172.739	205.656	182.650	9.019	0.08277	2.89711	4	X
K09SD2R	15.2	0.15	K123E	97.206	58.281	31.616	11.182	0.06117	3.11946	5	X
K09SD7V	16.5	0.15	K123E	318.308	221.596	24.359	7.693	0.11085	2.80137	4	X
K09SD8S	16.0	0.15	K123E	55.128	100.500	33.919	5.418	0.08632	3.24528	6	X
K09SF0S	16.2	0.15	K123E	222.127	124.540	212.587	5.673	0.03377	2.77640	7	X
K09SH0W	16.5	0.15	K123E	198.929	338.065	28.209	12.156	0.17674	2.72217	7	X
K09SL3L	16.3	0.15	K123E	303.413	42.679	229.708	22.263	0.20780	2.44357	4	X
K09SL6D	17.0	0.15	K123E	220.340	321.939	22.114	2.433	0.09780	2.70077	7	X
K09SL6H	16.8	0.15	K123E	182.636	193.434	183.576	4.148	0.08120	2.77454	4	X
K09SO1E	15.9	0.15	K123E	207.300	67.305	288.539	13.203	0.10572	2.77389	3	X
K09SO1P	15.1	0.15	K123E	86.038	218.661	238.928	18.143	0.10748	3.23330	3	X
K09SO3A	15.5	0.15	K123E	83.680	251.054	208.871	16.115	0.09444	3.06839	5	X
K09SO4Z	16.1	0.15	K123E	136.381	219.763	199.422	15.904	0.08703	3.08471	5	X
K09SO8A	16.6	0.15	K123E	185.303	356.120	10.757	6.273	0.07813	2.78414	5	X
K09SP7Y	17.1	0.15	K123E	203.756	314.917	40.811	3.807	0.07696	2.76448	6	X
K09SR5R	16.6	0.15	K123E	260.120	269.659	35.796	7.079	0.04533	2.72827	7	X
K09SX2K	16.6	0.15	K123E	202.220	185.604	180.171	7.636	0.17110	2.67043	5	X
K09SX6E	15.8	0.15	K123E	92.206	76.039	11.874	11.010	0.09556	3.12069	5	X
K09SY2Y	16.7	0.15	K123E	186.586	331.092	41.803	4.933	0.08215	2.81842	6	X
K09SZ3B	16.8	0.15	K123E	2.368	341.633	210.551	9.406	0.01529	2.96730	5	X
K09T01N	16.0	0.15	K123E	204.971	145.052	215.802	7.356	0.33261	2.77641	4	X
K09T04U	15.8	0.15	K123E	147.237	223.506	181.305	11.011	0.16032	3.05267	3	X
K09T08W	15.9	0.15	K123E	120.850	32.061	39.635	10.957	0.08262	3.06183	7	X
K09T45E	16.2	0.15	K123E	249.249	50.941	271.520	12.828	0.17393	2.53785	6	X
K09T45W	16.0	0.15	K123E	134.668	20.150	38.813	9.387	0.06357	3.17625	4	X
K09U05H	16.2	0.15	K123E	118.941	8.801	65.910	18.042	0.07547	3.17286	3	X
K09U06C	17.8	0.15	K123E	240.425	142.043	196.908	1.634	0.26027	2.38041	4	X



K09U12X	17.2	0.15	K123E	240.530	150.272	176.796	5.136	0.16196	2.61167	4	X
K09U17U	16.3	0.15	K123E	242.822	42.793	289.863	11.397	0.19016	2.61003	3	X
K09U49J	16.7	0.15	K123E	262.591	261.566	43.307	5.453	0.10661	2.75553	5	X
K09U66E	15.8	0.15	K123E	137.954	220.827	191.025	10.597	0.07603	3.10672	5	X
K09U67Q	16.0	0.15	K123E	128.929	9.448	53.571	10.138	0.13916	3.13733	3	X
K09U97J	17.0	0.15	K123E	211.292	244.136	112.265	3.056	0.10179	2.90300	6	X
K09UA1J	16.3	0.15	K123E	201.148	296.785	65.600	6.488	0.12187	2.98792	4	X
K09UA7G	16.7	0.15	K123E	261.868	104.245	213.146	4.976	0.21184	2.68801	6	X
K09UC0N	16.4	0.15	K123E	74.358	82.847	33.937	10.022	0.09190	3.12617	4	X
K09UC2G	16.1	0.15	K123E	208.990	152.696	192.868	9.682	0.02101	3.05103	5	X
K09UC9B	16.1	0.15	K123E	260.549	81.381	234.022	13.980	0.16923	2.76911	4	X
K09UD2G	15.7	0.15	K123E	145.193	127.175	284.117	8.403	0.08482	3.05477	4	X
K09UD7P	15.3	0.15	K123E	172.970	105.663	270.734	14.449	0.07337	3.19576	6	X
K09UF5F	16.0	0.15	K123E	81.652	80.811	36.428	8.279	0.02185	3.22644	5	X
K09V03D	16.0	0.15	K123E	257.358	211.940	111.809	14.416	0.16612	2.71293	5	X
K09V10Y	15.9	0.15	K123E	60.683	282.956	188.770	2.693	0.21802	3.94927	3	X
K09V28D	15.6	0.15	K123E	205.209	306.927	54.155	11.336	0.12711	2.96562	5	X
K09V65K	16.1	0.15	K123E	259.307	269.385	40.862	10.233	0.10375	3.01019	3	X
K09V66C	15.9	0.15	K123E	202.012	321.982	42.673	9.771	0.09920	3.05589	5	X
K09V73O	16.6	0.15	K123E	62.468	78.498	52.605	2.094	0.06417	3.20845	5	X
K09V76Q	14.9	0.15	K123E	188.628	125.827	240.920	13.958	0.07066	3.05242	5	X
K09VB5K	15.5	0.15	K123E	222.254	278.114	68.700	17.709	0.12548	2.86249	6	X
K09W08E	15.9	0.15	K123E	271.707	261.630	26.634	11.085	0.02309	3.14580	3	X
K09W44D	14.9	0.15	K123E	171.240	139.071	246.643	15.338	0.10138	3.11241	4	X
K09W47M	15.6	0.15	K123E	8.718	320.131	219.671	26.494	0.04909	3.14479	4	X
K09W55D	16.1	0.15	K123E	126.104	227.826	198.812	8.641	0.06225	3.17363	5	X
K09W62T	15.9	0.15	K123E	214.747	120.149	227.241	17.167	0.05891	3.19247	5	X
K09W69V	16.2	0.15	K123E	257.807	39.978	271.528	8.605	0.10806	2.89028	7	X
K09WB4O	16.9	0.15	K123E	244.152	279.494	41.632	4.384	0.10221	2.80652	5	X
K09WF6C	15.3	0.15	K123E	237.286	84.067	241.256	15.823	0.08478	3.20726	6	X
K09WH0W	16.5	0.15	K123E	252.963	279.000	40.427	11.627	0.09753	2.91541	4	X
K09WK9U	15.4	0.15	K123E	179.544	287.152	97.697	15.975	0.25171	3.07605	5	X
K09WN4Z	16.0	0.15	K123E	261.240	292.611	7.922	7.840	0.07199	3.16130	6	X
K09WQ0L	15.8	0.15	K123E	225.228	260.838	99.172	17.166	0.23987	3.14056	4	X
K09X07N	15.5	0.15	K123E	206.425	272.969	101.949	19.000	0.17471	3.16051	6	X
K09X08G	18.8	0.15	K123E	333.620	151.298	50.929	59.908	0.18984	1.42774	2	X
K10C18G	20.8	0.15	K123E	103.141	351.508	78.838	10.155	0.22614	1.43893	2	X
K10K07X	21.7	0.15	K123E	46.445	62.247	46.585	21.483	0.17100	0.99035	3	X
K10L14J	17.8	0.15	K123E	53.166	295.199	177.491	12.027	0.34168	1.62617	2	X
K10OC2R	17.8	0.15	K123E	158.267	209.119	183.716	2.662	0.15836	2.21393	6	X
K10S28V	17.8	0.15	K123E	78.134	84.988	11.667	1.241	0.13908	2.39195	6	X
K10T39H	18.0	0.15	K123E	291.929	253.463	15.222	20.278	0.06423	1.92446	3	X
K10TB6X	17.7	0.15	K123E	167.184	27.659	354.734	3.918	0.17758	2.16208	6	X
K10U15T	17.0	0.15	K123E	88.937	236.646	203.784	12.543	0.22460	2.62048	5	X
K10U34S	17.8	0.15	K123E	106.723	72.737	3.865	6.843	0.08092	2.32703	5	X
K10U56A	16.7	0.15	K123E	56.110	237.808	246.815	11.355	0.16066	2.70611	3	X
K10U57Q	17.5	0.15	K123E	158.555	359.900	29.918	5.135	0.10625	2.34166	4	X
K10V17S	17.0	0.15	K123E	128.298	305.067	110.951	11.687	0.24113	2.40069	5	X
K10V57V	17.4	0.15	K123E	136.530	192.794	215.840	5.092	0.09627	2.33720	6	X
K10V61B	16.3	0.15	K123E	109.181	223.900	203.724	11.267	0.24815	2.62614	5	X
K10V62R	17.3	0.15	K123E	165.799	348.604	38.330	5.339	0.13988	2.32981	4	X
K10V71Q	17.2	0.15	K123E	164.089	318.263	74.207	6.800	0.10483	2.24159	6	X
K10V85X	17.0	0.15	K123E	101.438	28.048	65.361	7.448	0.03356	2.39535	4	X
K10VA3W	17.5	0.15	K123E	123.138	356.505	68.087	5.017	0.16945	2.43761	4	X
K10VC2X	17.6	0.15	K123E	359.800	293.306	259.416	5.685	0.15497	2.39801	3	X
K10VH6Y	16.2	0.15	K123E	113.640	164.873	260.986	13.494	0.11965	2.57600	5	X
K10W40A	17.5	0.15	K123E	174.859	179.656	203.015	5.396	0.15320	2.21631	7	X
K10W48B	17.5	0.15	K123E	297.111	203.259	64.948	6.361	0.08028	2.25885	7	X
K10W71P	15.7	0.15	K123E	16.826	278.379	241.701	14.641	0.22860	3.15828	3	X
K10X57O	15.8	0.15	K123E	333.288	322.304	260.399	11.938	0.12174	2.69549	5	X
K10X59Q	16.0	0.15	K123E	300.984	155.670	117.634	10.428	0.03202	2.77011	6	X
K10X62E	16.1	0.15	K123E	64.965	216.897	256.332	7.715	0.18508	3.00771	4	X
K10X68D	16.5	0.15	K123E	138.288	326.870	81.007	14.031	0.25861	2.64317	4	X
K10X76Y	17.0	0.15	K123E	57.135	26.413	102.464	4.708	0.13295	2.77442	6	X
K10X83M	15.8	0.15	K123E	41.126	261.982	235.410	14.528	0.18393	3.14470	5	X
K10Y03Q	15.6	0.15	K123E	87.026	359.021	106.740	18.579	0.16689	3.10650	5	X
K10Y05M	16.5	0.15	K123E	289.441	216.596	55.075	3.823	0.02109	2.68585	7	X
K11A02O	15.5	0.15	K123E	0.904	254.786	302.116	8.023	0.11875	3.10775	5	X
K11A13X	15.9	0.15	K123E	256.452	210.096	103.999	12.302	0.07939	2.68587	7	X
K11A17Y	16.8	0.15	K123E	20.412	96.695	81.204	13.839	0.21246	2.63108	4	X
K11A20Y	16.1	0.15	K123E	276.161	336.827	311.130	11.722	0.07260	2.97400	4	X
K11A25V	17.0	0.15	K123E	152.555	252.285	153.892	2.813	0.06937	2.79194	6	X
K11A30X	16.3	0.15	K123E	94.640	337.959	121.073	11.338	0.09592	3.10637	4	X
K11A35E	14.9	0.15	K123E	91.132	133.761	311.478	16.272	0.22756	3.19143	6	X
K11A40P	15.8	0.15	K123E	292.769	319.032	307.028	14.793	0.05213	3.04462	5	X
K11A73H	15.8	0.15	K123E	3.346	90.519	101.614	10.331	0.04812	3.07443	5	X

K11A73N	15.6	0.15	K123E	72.421	194.507	291.590	8.361	0.02135	2.99877	3	X
K11A78L	16.2	0.15	K123E	87.126	336.538	131.847	12.916	0.10300	3.08017	5	X
K11B08O	16.5	0.15	K123E	320.761	179.375	67.502	2.269	0.13858	3.14515	6	X
K11B17G	15.9	0.15	K123E	149.514	285.521	126.095	13.284	0.12926	2.77638	5	X
K11B26Y	15.9	0.15	K123E	329.142	113.876	139.795	13.825	0.07642	2.77644	5	X
K11B29V	16.3	0.15	K123E	323.135	144.414	101.896	12.726	0.07747	3.02333	4	X
K11B30D	16.9	0.15	K123E	241.284	240.791	92.177	10.983	0.13376	2.55798	5	X
K11B32R	15.6	0.15	K123E	3.962	67.068	142.046	12.959	0.07012	3.21726	4	X
K11B53Q	15.9	0.15	K123E	185.709	247.327	130.003	10.219	0.09296	2.97949	5	X
K11B55Y	16.7	0.15	K123E	91.999	329.342	142.068	13.294	0.04126	2.89939	3	X
K11B90K	16.6	0.15	K123E	318.375	150.213	115.032	12.429	0.15162	2.65090	5	X
K11B97A	16.4	0.15	K123E	341.892	123.256	115.941	6.136	0.12594	3.01237	5	S
K11BA3G	15.8	0.15	K123E	46.973	101.986	33.359	3.973	0.15536	4.00491	4	X
K11BB5Z	17.1	0.15	K123E	199.467	267.090	98.212	3.380	0.11490	2.65206	6	X
K11BC3B	16.1	0.15	K123E	173.396	261.493	127.193	11.891	0.08863	3.09792	7	X
K11BF3V	16.8	0.15	K123E	246.969	228.489	89.273	2.983	0.03061	2.90753	4	X
K11C15G	16.2	0.15	K123E	153.815	270.366	133.330	3.388	0.09053	3.06430	6	X
K11C27G	15.6	0.15	K123E	105.658	290.621	156.075	14.669	0.17195	3.22416	4	X
K11C67U	15.3	0.15	K123E	269.930	178.366	131.201	11.808	0.00565	3.08459	7	X
K11C75M	15.5	0.15	K123E	359.208	53.713	170.430	13.567	0.11472	3.19866	6	X
K11E07N	16.0	0.15	K123E	342.339	86.458	150.456	13.263	0.03710	3.07955	4	X
K11E19M	15.6	0.15	K123E	345.027	98.313	142.197	15.769	0.03060	3.12885	4	X
K11E75O	15.5	0.15	K123E	329.649	129.648	131.616	14.362	0.10955	3.17101	6	X
K11F62X	7.4	0.15	K123E	7.578	232.808	288.264	18.275	0.57395	47.79316	5	X
K11Y68B	17.1	0.15	K123E	34.249	125.570	332.980	4.557	0.11444	2.46637	3	X
K12D27B	16.7	0.15	K123E	338.115	235.495	324.811	12.070	0.26191	3.04348	3	X
K12D39A	15.7	0.15	K123E	284.085	197.915	92.944	34.144	0.15753	2.63030	5	X
K12F32P	16.2	0.15	K123E	60.294	319.420	132.511	4.243	0.05715	3.08985	3	S
K12F43J	16.8	0.15	K123E	212.227	155.365	191.098	1.670	0.09365	2.65466	6	X
K12G11R	17.6	0.15	K123E	262.183	177.869	119.942	23.740	0.05937	1.91393	3	K

## New perturbed one-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Arc	C
K12A10L	17.3	0.15	K123E	10.825	37.158	146.525	34.828	0.25548	2.61047	111	X
K12BF1F	14.6	0.15	K123E	72.635	89.957	318.940	11.016	0.12316	5.15360	90	X
K12D00O	20.3	0.15	K123E	359.325	340.037	196.312	10.269	0.50738	2.21344	70	X
K12G11X	21.1	0.15	K123E	331.033	187.328	75.033	9.340	0.44695	2.11457	12	X
K12G17V	21.2	0.15	K123E	279.351	311.475	6.809	10.925	0.45680	1.63934	11	X
K12H00L	22.7	0.15	K123E	335.491	40.342	210.453	9.294	0.52047	2.08828	10	X
K12H00M	24.1	0.15	K123E	286.927	233.076	39.208	6.973	0.19550	1.16452	11	X
K12H01M	21.2	0.15	K123E	317.490	71.117	212.369	7.550	0.47915	2.06207	10	X
K12H01Y	19.9	0.15	K123E	309.058	96.022	213.664	4.737	0.56009	2.20362	10	X
K12H08G	19.8	0.15	K123E	7.482	256.561	214.813	25.591	0.72769	2.44772	7	X
K12H08M	23.9	0.15	K123E	346.556	179.065	62.233	3.152	0.63908	2.85695	5	X
K12H13P	24.2	0.15	K123E	226.948	288.024	37.136	23.036	0.17727	0.98169	4	X
K12H20C	21.5	0.15	K123E	328.221	262.664	37.989	18.200	0.63877	2.28920	2	X
K12H20D	21.7	0.15	K123E	37.690	32.147	87.060	4.760	0.27494	1.18444	2	K
K12H20H	24.5	0.15	K123E	50.427	64.200	28.609	14.261	0.28872	1.03224	2	K

## New one-opposition orbits:

Object	H	G	Epoch	M	Peri.	Node	Incl.	e	a	Arc	C
K12D61Y	17.3	0.15	K123E	349.977	304.472	234.254	8.069	0.23168	2.78732	62	X
K12F23N	17.8	0.15	K1243	16.124	293.924	221.540	28.180	0.37569	2.57285	35	X
K12F41T	17.1	0.15	K1243	289.750	220.784	75.089	2.362	0.18476	2.39507	42	X
K12F44L	17.2	0.15	K1243	339.992	189.032	54.047	12.992	0.22975	2.61503	33	S
K12F69T	18.0	0.15	K1243	345.990	34.776	193.386	23.907	0.20752	2.32462	32	X
K12F70M	17.2	0.15	K1243	330.171	229.085	32.222	29.877	0.35600	3.13475	27	S
K12G01R	18.5	0.15	K1243	345.511	96.845	148.222	27.142	0.47224	2.67499	14	S
K12G03G	18.1	0.15	K1243	3.595	38.544	156.684	1.568	0.13049	2.37468	41	X
K12G05H	19.0	0.15	K1243	107.689	246.907	203.245	22.067	0.03978	1.84673	26	X
K12G10C	17.4	0.15	K1243	297.285	40.909	236.590	0.893	0.17596	2.71734	13	X
K12G12D	17.7	0.15	K1243	76.209	7.525	101.554	24.113	0.08524	1.89649	12	X
K12G14A	17.9	0.15	K1243	315.746	18.368	234.460	2.179	0.13939	2.41280	13	X
K12H00B	17.9	0.15	K1243	231.606	318.780	16.767	21.309	0.05299	1.89591	27	X
K12H00T	18.7	0.15	K1243	182.662	161.294	215.764	21.627	0.10675	1.83270	3	X
K12H02V	17.9	0.15	K124N	115.351	268.011	183.543	22.772	0.08445	1.97663	6	X
K12H03E	18.2	0.15	K1243	16.574	349.924	194.288	24.594	0.20986	2.32195	10	X
K12H06S	18.4	0.15	K1243	309.224	93.431	174.656	2.321	0.17618	2.23511	8	X
K12H06Y	18.3	0.15	K1243	27.499	111.364	31.552	19.874	0.33826	2.25565	8	X
K12H07B	18.4	0.15	K1243	34.080	68.557	93.750	3.485	0.06294	2.16580	8	X
K12H07D	18.2	0.15	K1243	111.758	297.230	145.579	4.266	0.07418	2.20778	8	X
K12H11P	16.9	0.15	K124N	336.227	198.024	44.364	35.226	0.18193	2.65579	5	S
K12H13Z	18.8	0.15	K124N	17.354	87.205	83.876	28.087	0.35383	2.47014	4	S
K12H14B	17.5	0.15	K1243	312.891	212.224	45.515	2.668	0.15913	2.36837	7	X
K12H15U	17.9	0.15	K124N	149.107	171.143	236.606	19.560	0.13517	1.92680	2	X
K12H20B	19.8	0.15	K124N	327.780	24.609	262.495	7.260	0.45642	2.47834	2	X

K12H20E	16.7	0.15	K122N	340.978	88.034	145.802	12.715	0.27584	2.55041	120 S
K12H20J	17.0	0.15	K1243	354.416	124.200	81.012	32.220	0.23256	2.63848	35 K

## New observations:

K01SQ9Z	KC2012	04	26.07182	17	29	38.08	-00	47	09.5	16.7	RuEH07516C
K01SQ9Z	KC2012	04	26.07335	17	29	39.67	-00	47	04.5	16.8	RuEH07516C
K01SQ9Z	KC2012	04	26.07487	17	29	41.28	-00	46	59.9	16.7	RuEH07516C
K03S05L	C2012	04	26.40190	13	04	33.849	-03	50	01.37	21.4	rLEH075F51
K03S05L	C2012	04	26.41246	13	04	32.900	-03	49	58.89	21.5	rLEH075F51
K03SM2V	C2012	04	26.35263	12	10	47.989	-25	28	42.76	19.3	gLEH075F51
K03SM2V	C2012	04	26.36358	12	10	47.215	-25	28	24.14	19.2	gLEH075F51
K09X08G	KC2012	04	26.40945	17	05	32.97	+67	12	39.0	19.1	RuEH075H36
K09X08G	KC2012	04	26.41394	17	05	29.60	+67	12	39.1	19.6	RuEH075H36
K09X08G	KC2012	04	26.41791	17	05	26.42	+67	12	38.9	19.2	RuEH075H36
K10C18G	C2012	04	26.42290	14	33	49.329	+03	00	07.25	21.3	rLEH075F51
K10C18G	C2012	04	26.43368	14	33	48.090	+03	00	07.01	21.4	rLEH075F51
K10K07X	KC2012	04	26.98654	18	53	47.07	+31	24	03.4	18.3	VuEH075C73
K10K07X	KC2012	04	26.98694	18	53	46.90	+31	23	59.7	18.5	VuEH075C73
K10K07X	KC2012	04	26.99498	18	53	42.17	+31	22	40.5	18.7	VuEH075C73
K10K07X	KC2012	04	26.99579	18	53	41.72	+31	22	33.1	18.9	VuEH075C73
K10K07X	KC2012	04	26.99659	18	53	41.34	+31	22	26.1	18.9	VuEH075C73
K10L14J	C2012	04	26.59024	16	03	17.409	+01	01	51.03	18.6	iLEH075F51
K10L14J	C2012	04	26.60154	16	03	16.446	+01	02	01.18	18.5	iLEH075F51
K12D00O	KC2012	04	26.01937	15	05	19.26	+06	19	40.7	17.5	RuEH07516C
K12D00O	KC2012	04	26.02210	15	05	19.49	+06	19	44.5	17.5	RuEH07516C
K12D00O	KC2012	04	26.02483	15	05	19.70	+06	19	48.2	17.5	RuEH07516C
K12D00O	C2012	04	26.42481	15	05	58.076	+06	29	03.74	17.9	rLEH075F51
K12D00O	C2012	04	26.43560	15	05	58.885	+06	29	18.11	17.9	rLEH075F51
K12G11X	C2012	04	26.59024	16	05	21.152	+02	39	26.57	19.8	iLEH075F51
K12G11X	C2012	04	26.60154	16	05	22.025	+02	39	18.61	19.7	iLEH075F51
K12G17V	2C2012	04	25.49328	212	05	40.423	-09	13	18.09	22.3	RtEH07556E
K12G17V	2C2012	04	25.49845	5012	05	39.760	-09	13	17.52	22.2	RtEH07556E
K12H00L	KC2012	04	25.95305	12	26	20.17	+04	45	16.7	17.8	RuEH07516C
K12H00L	KC2012	04	25.95578	12	26	20.81	+04	45	39.9	18.3	RuEH07516C
K12H00L	KC2012	04	25.95851	12	26	21.47	+04	46	02.7	18.5	RuEH07516C
K12H00M	KC2012	04	25.96981	13	20	30.87	+46	23	35.5	15.9	RuEH07516C
K12H00M	KC2012	04	25.97143	13	20	27.68	+46	24	16.1	16.0	RuEH07516C
K12H00M	KC2012	04	25.97285	13	20	24.92	+46	24	51.3	15.9	RuEH07516C
K12H00M	C2012	04	26.10916	13	17	20.42	+47	25	06.2	15.8	VuEH075I27
K12H00M	C2012	04	26.10955	13	17	19.58	+47	25	18.1	15.7	VuEH075I27
K12H00M	C2012	04	26.10994	13	17	18.71	+47	25	29.4	15.7	VuEH075I27
K12H00M	C2012	04	26.11032	13	17	17.89	+47	25	40.7	15.7	VuEH075I27
K12H00M	C2012	04	26.11072	13	17	17.06	+47	25	52.1	15.6	VuEH075I27
K12H00M	C2012	04	26.11110	13	17	16.22	+47	26	03.5	15.7	VuEH075I27
K12H00M	C2012	04	26.11149	13	17	15.37	+47	26	14.8	15.7	VuEH075I27
K12H00M	C2012	04	26.11189	13	17	14.51	+47	26	26.1	15.7	VuEH075I27
K12H00M	C2012	04	26.11228	13	17	13.69	+47	26	37.6	15.7	VuEH075I27
K12H00M	C2012	04	26.11266	13	17	12.86	+47	26	49.1	15.7	VuEH075I27
K12H00M	C2012	04	26.11306	13	17	11.99	+47	27	00.8	15.7	VuEH075I27
K12H00M	C2012	04	26.11345	13	17	11.17	+47	27	11.8	15.7	VuEH075I27
K12H00M	C2012	04	26.11383	13	17	10.32	+47	27	23.1	15.7	VuEH075I27
K12H00M	C2012	04	26.11422	13	17	09.48	+47	27	34.4	15.7	VuEH075I27
K12H00M	C2012	04	26.11462	13	17	08.63	+47	27	45.9	15.7	VuEH075I27
K12H00M	C2012	04	26.11500	13	17	07.80	+47	27	57.3	15.7	VuEH075I27
K12H00M	C2012	04	26.11539	13	17	06.96	+47	28	08.8	15.7	VuEH075I27
K12H00M	C2012	04	26.11579	13	17	06.12	+47	28	19.7	15.8	VuEH075I27
K12H00M	C2012	04	26.11617	13	17	05.25	+47	28	31.4	15.7	VuEH075I27
K12H00M	C2012	04	26.11656	13	17	04.40	+47	28	42.7	15.6	VuEH075I27
K12H00M	C2012	04	26.11696	13	17	03.55	+47	28	54.0	15.6	VuEH075I27
K12H00M	C2012	04	26.11734	13	17	02.73	+47	29	05.6	15.7	VuEH075I27
K12H00M	C2012	04	26.11773	13	17	01.87	+47	29	17.0	15.8	VuEH075I27
K12H00M	C2012	04	26.11813	13	17	01.05	+47	29	28.6	15.6	VuEH075I27
K12H00M	C2012	04	26.11851	13	17	00.15	+47	29	39.5	15.8	VuEH075I27
K12H00M	C2012	04	26.11890	13	16	59.34	+47	29	51.1	15.7	VuEH075I27
K12H00M	C2012	04	26.11929	13	16	58.47	+47	30	02.5	15.7	VuEH075I27
K12H00M	C2012	04	26.11968	13	16	57.64	+47	30	13.7	15.8	VuEH075I27
K12H00M	C2012	04	26.12007	13	16	56.80	+47	30	25.4	15.6	VuEH075I27
K12H00M	C2012	04	26.12046	13	16	55.92	+47	30	36.6	15.7	VuEH075I27
K12H00M	C2012	04	26.12084	13	16	55.08	+47	30	48.2	15.7	VuEH075I27
K12H00M	C2012	04	26.12124	13	16	54.20	+47	30	59.6	15.7	VuEH075I27
K12H00M	C2012	04	26.12162	13	16	53.37	+47	31	10.6	15.7	VuEH075I27
K12H00M	C2012	04	26.12201	13	16	52.52	+47	31	22.0	15.8	VuEH075I27
K12H00M	C2012	04	26.12241	13	16	51.66	+47	31	33.6	15.6	VuEH075I27
K12H00M	C2012	04	26.12279	13	16	50.79	+47	31	44.9	15.7	VuEH075I27
K12H00M	C2012	04	26.12318	13	16	49.97	+47	31	56.1	15.7	VuEH075I27
K12H00M	C2012	04	26.12358	13	16	49.10	+47	32	07.6	15.7	VuEH075I27

K12H00M	C2012	04	26.12397	13	16	48.22	+47	32	19.0	15.8	VuEH075I27
K12H00M	C2012	04	26.12436	13	16	47.37	+47	32	30.6	15.8	VuEH075I27
K12H00M	C2012	04	26.12475	13	16	46.52	+47	32	42.0	15.7	VuEH075I27
K12H00M	C2012	04	26.12514	13	16	45.67	+47	32	53.7	15.8	VuEH075I27
K12H00M	C2012	04	26.12553	13	16	44.81	+47	33	04.6	15.7	VuEH075I27
K12H00M	C2012	04	26.12594	13	16	43.90	+47	33	16.8	15.7	VuEH075I27
K12H00M	C2012	04	26.12632	13	16	43.06	+47	33	27.9	15.7	VuEH075I27
K12H00M	C2012	04	26.12671	13	16	42.19	+47	33	39.2	15.7	VuEH075I27
K12H00M	C2012	04	26.12709	13	16	41.35	+47	33	50.6	15.7	VuEH075I27
K12H00M	C2012	04	26.12749	13	16	40.47	+47	34	02.0	15.7	VuEH075I27
K12H00M	C2012	04	26.12788	13	16	39.63	+47	34	13.6	15.6	VuEH075I27
K12H00M	C2012	04	26.12826	13	16	38.77	+47	34	25.0	15.7	VuEH075I27
K12H00M	C2012	04	26.12866	13	16	37.93	+47	34	36.3	15.7	VuEH075I27
K12H00M	C2012	04	26.12905	13	16	37.08	+47	34	47.5	15.7	VuEH075I27
K12H00M	C2012	04	26.12943	13	16	36.17	+47	34	59.0	15.8	VuEH075I27
K12H00M	C2012	04	26.12983	13	16	35.32	+47	35	10.3	15.6	VuEH075I27
K12H00M	C2012	04	26.13022	13	16	34.44	+47	35	21.8	15.7	VuEH075I27
K12H00M	C2012	04	26.13060	13	16	33.56	+47	35	32.9	15.7	VuEH075I27
K12H00M	C2012	04	26.13100	13	16	32.73	+47	35	44.6	15.6	VuEH075I27
K12H00M	C2012	04	26.13138	13	16	31.87	+47	35	55.9	15.7	VuEH075I27
K12H00M	C2012	04	26.13177	13	16	30.99	+47	36	07.2	15.8	VuEH075I27
K12H00M	C2012	04	26.13216	13	16	30.14	+47	36	18.6	15.6	VuEH075I27
K12H00M	C2012	04	26.13256	13	16	29.29	+47	36	29.7	15.7	VuEH075I27
K12H00M	C2012	04	26.13294	13	16	28.39	+47	36	41.7	15.7	VuEH075I27
K12H00M	C2012	04	26.13333	13	16	27.53	+47	36	52.7	15.7	VuEH075I27
K12H00M	C2012	04	26.13372	13	16	26.70	+47	37	04.3	15.8	VuEH075I27
K12H00M	C2012	04	26.13411	13	16	25.80	+47	37	15.5	15.7	VuEH075I27
K12H00M	C2012	04	26.13450	13	16	24.89	+47	37	26.9	15.7	VuEH075I27
K12H00M	%C2012	04	26.31421413	10	54.80	+49	14	15.5	16.0	RtEH075F65	
K12H00M	%C2012	04	26.31457913	10	53.80	+49	14	28.1	16.0	RtEH075F65	
K12H00M	%C2012	04	26.31491513	10	52.88	+49	14	39.6	16.0	RtEH075F65	
K12H00M	%C2012	04	26.31524113	10	51.99	+49	14	50.9	16.1	RtEH075F65	
K12H00M	%C2012	04	26.31558213	10	51.04	+49	15	02.7	16.1	RtEH075F65	
K12H00M	%C2012	04	26.31592213	10	50.11	+49	15	14.4	16.0	RtEH075F65	
K12H00M	%C2012	04	26.31625313	10	49.19	+49	15	25.7	16.0	RtEH075F65	
K12H00M	%C2012	04	26.31660413	10	48.23	+49	15	37.8	16.0	RtEH075F65	
K12H00M	%C2012	04	26.31693913	10	47.31	+49	15	49.3	16.0	RtEH075F65	
K12H00M	%C2012	04	26.31728013	10	46.35	+49	16	01.0	16.1	RtEH075F65	
K12H00M	%C2012	04	26.31762613	10	45.41	+49	16	12.9	16.1	RtEH075F65	
K12H00M	%C2012	04	26.31797213	10	44.45	+49	16	24.9	15.9	RtEH075F65	
K12H00M	%C2012	04	26.31831713	10	43.49	+49	16	36.8	16.0	RtEH075F65	
K12H00M	%C2012	04	26.31865313	10	42.58	+49	16	48.4	16.0	RtEH075F65	
K12H00M	%C2012	04	26.31900313	10	41.59	+49	17	00.4	16.1	RtEH075F65	
K12H00M	%C2012	04	26.31934813	10	40.65	+49	17	12.3	16.1	RtEH075F65	
K12H00M	%C2012	04	26.31969913	10	39.67	+49	17	24.3	16.0	RtEH075F65	
K12H00M	%C2012	04	26.32002513	10	38.78	+49	17	35.6	16.1	RtEH075F65	
K12H00M	%C2012	04	26.32037313	10	37.80	+49	17	47.5	16.0	RtEH075F65	
K12H00M	%C2012	04	26.32071313	10	36.86	+49	17	59.3	16.1	RtEH075F65	
K12H00M	%C2012	04	26.32105413	10	35.90	+49	18	11.0	16.1	RtEH075F65	
K12H00M	%C2012	04	26.32138013	10	35.00	+49	18	22.2	16.0	RtEH075F65	
K12H00M	JC2012	04	27.16800	12	11	56.82	+59	38	35.2	15.8	RoEH075695
K12H00M	JC2012	04	27.16867	12	11	50.92	+59	39	15.7	15.8	RoEH075695
K12H00M	JC2012	04	27.16932	12	11	45.27	+59	39	53.5	15.8	RoEH075695
K12H00M	JC2012	04	27.16996	12	11	39.63	+59	40	32.0	15.8	RoEH075695
K12H01M	C2012	04	26.39828	12	38	39.567	-05	48	33.86	21.0	rLEH075F51
K12H01M	C2012	04	26.40886	12	38	38.816	-05	48	18.80	20.9	rLEH075F51
K12H01Y	C2012	04	26.39949	12	48	14.222	-06	36	59.86	21.1	rLEH075F51
K12H01Y	C2012	04	26.41006	12	48	13.234	-06	36	50.70	21.0	rLEH075F51
K12H08G	JC2012	04	27.17765	13	05	22.52	-11	18	46.5	18.3	RoEH075695
K12H08G	JC2012	04	27.17842	13	05	22.54	-11	18	43.3	18.3	RoEH075695
K12H08G	JC2012	04	27.17907	13	05	22.56	-11	18	40.9	18.4	RoEH075695
K12H08G	JC2012	04	27.17974	13	05	22.61	-11	18	38.0	18.5	RoEH075695
K12H08M	KC2012	04	26.85159	13	31	32.16	+12	43	29.7	19.9	VuEH075A13
K12H08M	KC2012	04	26.85417	13	31	33.26	+12	43	26.2	19.5	VuEH075A13
K12H08M	KC2012	04	26.87313	13	31	41.14	+12	43	07.4	19.7	VuEH075A13
K12H08M	KC2012	04	26.87572	13	31	42.25	+12	43	04.2	19.9	VuEH075A13
K12H13O	KC2012	04	25.35543	13	42	39.59	+06	47	01.1	20.9	RoEH075291
K12H13O	KC2012	04	25.35682	13	42	38.77	+06	46	51.9	20.4	RoEH075291
K12H13O	KC2012	04	25.35822	13	42	38.10	+06	46	42.7	20.9	RoEH075291
K12H13P	2C2012	04	25.58210415	18	17.292	+51	55	11.17	16.8	RtEH075568	
K12H13P	2C2012	04	25.58339715	18	11.448	+51	55	32.85	16.9	RtEH075568	
K12H13P	KC2012	04	25.82917	14	59	43.05	+53	10	28.1		uEH075104
K12H13P	KC2012	04	25.85117	14	57	30.59	+53	18	58.1	16.9	RuEH075104
K12H13P	KC2012	04	25.85502	14	57	06.89	+53	20	27.4	16.6	RuEH075104
K12H13P	KC2012	04	25.97469	14	43	26.39	+54	05	27.1	16.0	RuEH07516C
K12H13P	KC2012	04	25.97570	14	43	18.75	+54	05	48.7	16.4	RuEH07516C

K12H13P	KC2012	04	25.97667	14	43	11.40	+54	06	09.8	16.4	RuEH07516C
K12H13P	KC2012	04	25.97766	14	43	03.89	+54	06	30.8	16.4	RuEH07516C
K12H13P	C2012	04	26.13968	14	21	42.37	+55	01	34.5	15.5	VuEH075I27
K12H13P	C2012	04	26.14150	14	21	24.92	+55	02	12.7	15.6	VuEH075I27
K12H13P	C2012	04	26.14480	14	20	53.09	+55	03	25.5	15.6	VuEH075I27
K12H13P	C2012	04	26.14517	14	20	49.49	+55	03	32.4	15.8	VuEH075I27
K12H13P	C2012	04	26.14700	14	20	31.72	+55	04	11.6	15.6	VuEH075I27
K12H13P	C2012	04	26.14920	14	20	10.35	+55	04	58.0	15.7	VuEH075I27
K12H13P	C2012	04	26.14993	14	20	03.33	+55	05	14.0	15.7	VuEH075I27
K12H13P	C2012	04	26.15030	14	19	59.71	+55	05	21.7	15.8	VuEH075I27
K12H13P	C2012	04	26.15067	14	19	56.13	+55	05	29.6	15.7	VuEH075I27
K12H13P	C2012	04	26.15104	14	19	52.50	+55	05	37.6	15.8	VuEH075I27
K12H13P	C2012	04	26.15214	14	19	41.84	+55	06	00.3	15.8	VuEH075I27
K12H13P	C2012	04	26.15287	14	19	34.54	+55	06	16.2	15.8	VuEH075I27
K12H13P	C2012	04	26.15324	14	19	30.96	+55	06	24.1	15.6	VuEH075I27
K12H13P	C2012	04	26.15507	14	19	12.97	+55	07	02.4	15.7	VuEH075I27
K12H13P	C2012	04	26.15617	14	19	02.09	+55	07	25.6	15.7	VuEH075I27
K12H13P	C2012	04	26.15727	14	18	51.25	+55	07	48.1	15.6	VuEH075I27
K12H13P	C2012	04	26.15764	14	18	47.63	+55	07	56.9	15.7	VuEH075I27
K12H13P	C2012	04	26.15837	14	18	40.39	+55	08	11.7	15.7	VuEH075I27
K12H13P	C2012	04	26.15911	14	18	33.20	+55	08	26.6	15.6	VuEH075I27
K12H13P	C2012	04	26.15949	14	18	29.36	+55	08	34.4	15.6	VuEH075I27
K12H13P	C2012	04	26.16023	14	18	22.00	+55	08	49.7	15.6	VuEH075I27
K12H13P	C2012	04	26.16322	14	17	52.24	+55	09	51.7	15.7	VuEH075I27
K12H13P	C2012	04	26.18962	14	13	42.06	+55	22	03.0	16.5	RuEH075H23
K12H13P	C2012	04	26.19233	14	13	13.84	+55	22	57.5	16.1	RuEH075H23
K12H13P	C2012	04	26.19473	14	12	48.17	+55	23	46.2	16.3	RuEH075H23
K12H13P	%C2012	04	26.33069513	48	05.112+56	02	27.62	15.9	RtEH075F65		
K12H13P	%C2012	04	26.33103613	48	00.655+56	02	33.19	15.8	RtEH075F65		
K12H13P	%C2012	04	26.33136213	47	56.405+56	02	38.37	16.4	RtEH075F65		
K12H13P	%C2012	04	26.33169313	47	52.085+56	02	43.77	15.9	RtEH075F65		
K12H13P	%C2012	04	26.33202413	47	47.750+56	02	49.14	15.6	RtEH075F65		
K12H13P	%C2012	04	26.33235013	47	43.463+56	02	54.34	15.9	RtEH075F65		
K12H13P	%C2012	04	26.33267613	47	39.210+56	02	59.70	16.0	RtEH075F65		
K12H13P	%C2012	04	26.33301713	47	34.730+56	03	05.06	15.5	RtEH075F65		
K12H13P	%C2012	04	26.33335813	47	30.275+56	03	10.55	16.1	RtEH075F65		
K12H13P	%C2012	04	26.33366313	47	26.260+56	03	15.43	16.0	RtEH075F65		
K12H13P	%C2012	04	26.33398713	47	21.990+56	03	20.64	15.7	RtEH075F65		
K12H13P	%C2012	04	26.33429513	47	17.950+56	03	25.60	15.8	RtEH075F65		
K12H13P	%C2012	04	26.33464713	47	13.315+56	03	31.00	16.0	RtEH075F65		
K12H13P	%C2012	04	26.33500113	47	08.670+56	03	36.78	15.5	RtEH075F65		
K12H13P	%C2012	04	26.33535213	47	04.040+56	03	42.17	16.0	RtEH075F65		
K12H13P	%C2012	04	26.33573313	46	59.020+56	03	48.25	16.0	RtEH075F65		
K12H13P	%C2012	04	26.33607813	46	54.475+56	03	53.60	15.6	RtEH075F65		
K12H13P	KC2012	04	26.89883	10	55	03.02	+50	57	40.4	15.7	VtEH075J84
K12H13P	KC2012	04	26.89977	10	54	41.69	+50	55	56.7	16.2	VtEH075J84
K12H13P	KC2012	04	26.90167	10	53	58.73	+50	52	22.5	15.6	VtEH075J84
K12H13P	KC2012	04	26.90355	10	53	16.07	+50	48	46.4	16.1	VtEH075J84
K12H13P	KC2012	04	26.91080	10	50	31.65	+50	34	45.8	15.3	VtEH075J84
K12H13P	KC2012	04	26.91221	10	50	01.65	+50	32	20.0	16.1	VtEH075J84
K12H13P	KC2012	04	26.91363	10	49	27.51	+50	29	10.6	15.7	VtEH075J84
K12H13P	KC2012	04	26.91457	10	49	06.09	+50	27	18.9	14.9	VtEH075J84
K12H20C	C2012	04	26.53625	14	30	58.31	-13	29	05.0	19.5	RoEH07530C
K12H20C	C2012	04	26.53811	14	30	57.97	-13	29	11.0	19.5	RoEH07530C
K12H20C	C2012	04	26.54366	14	30	56.95	-13	29	28.5	19.6	RoEH07530C
K12H20C	C2012	04	26.54739	14	30	56.33	-13	29	40.2	19.6	RoEH07530C
01620	C2008	10	23.85147001	40	34.56	+44	27	04.7	15.2	RuEH075C01	
01620	C2008	10	23.85207201	40	34.44	+44	27	04.2	15.2	RuEH075C01	
01620	C2008	10	23.85268501	40	34.33	+44	27	04.1	15.2	RuEH075C01	
01865	C2010	07	08.92886622	52	06.07	+46	21	20.7	16.5	RuEH075C01	
01865	C2010	07	08.93052122	52	05.74	+46	21	20.7	16.5	RuEH075C01	
01865	C2010	07	08.95262722	52	01.37	+46	21	21.7	16.9	RuEH075C01	
01865	C2010	07	08.95427122	52	01.05	+46	21	21.9	16.9	RuEH075C01	
07341	C2012	04	26.37820	12	14	22.936-18	15	39.99	17.6	gLEH075F51	
07341	C2012	04	26.38896	12	14	22.983-18	15	31.17	17.7	gLEH075F51	
10150	C2012	04	26.52344	15	42	45.706+48	06	00.47	20.1	rLEH075F51	
10150	C2012	04	26.53384	15	42	44.877+48	06	04.59	20.1	rLEH075F51	
24475	C2012	04	26.81002	11	09	57.30	+34	19	48.0	18.6	VuEH075C73
24475	C2012	04	26.81083	11	09	57.41	+34	19	48.0	18.2	VuEH075C73
24475	C2012	04	26.81163	11	09	57.42	+34	19	46.0	18.1	VuEH075C73
24475	C2012	04	26.81244	11	09	57.53	+34	19	44.2	18.1	VuEH075C73
24475	C2012	04	26.81324	11	09	57.59	+34	19	42.3	18.3	VuEH075C73
24475	C2012	04	26.81405	11	09	57.64	+34	19	40.6	18.5	VuEH075C73
24475	C2012	04	26.81485	11	09	57.73	+34	19	39.2	18.2	VuEH075C73
24475	C2012	04	26.81565	11	09	57.79	+34	19	37.7	18.6	VuEH075C73
24475	C2012	04	26.81646	11	09	57.88	+34	19	36.4	18.1	VuEH075C73

24475	C2012	04	26.81726	11	09	57.93	+34	19	34.2	18.6	VuEH075C73
24475	C2012	04	26.81806	11	09	57.99	+34	19	32.6	18.3	VuEH075C73
24475	C2012	04	26.81887	11	09	58.05	+34	19	30.9	18.4	VuEH075C73
24475	C2012	04	26.81966	11	09	58.13	+34	19	29.2	18.5	VuEH075C73
24475	C2012	04	26.82046	11	09	58.21	+34	19	28.1	18.0	VuEH075C73
24475	C2012	04	26.82127	11	09	58.26	+34	19	25.9	18.2	VuEH075C73
24475	C2012	04	26.82207	11	09	58.34	+34	19	24.0	18.4	VuEH075C73
24475	C2012	04	26.82287	11	09	58.51	+34	19	21.8	18.3	VuEH075C73
24475	C2012	04	26.82367	11	09	58.45	+34	19	20.7	18.4	VuEH075C73
66407	C2012	04	26.45477	14	10	44.815+51		35	34.03	19.7	rLEH075F51
66407	C2012	04	26.46499	14	10	43.125+51		35	21.33	19.5	rLEH075F51
86667	C2012	04	26.40431	13	23	28.067-04		11	41.11	16.6	rLEH075F51
86667	C2012	04	26.41486	13	23	25.104-04		11	07.43	16.6	rLEH075F51
86667	C2012	04	26.82523	13	21	34.80	-03	49	25.2	17.1	VuEH075C73
86667	C2012	04	26.82604	13	21	34.50	-03	49	22.2	17.0	VuEH075C73
86667	C2012	04	26.82684	13	21	34.37	-03	49	20.5	17.0	VuEH075C73
86667	C2012	04	26.82765	13	21	34.14	-03	49	17.7	16.9	VuEH075C73
86667	C2012	04	26.82845	13	21	33.90	-03	49	15.0	17.1	VuEH075C73
86667	C2012	04	26.82926	13	21	33.64	-03	49	12.3	17.1	VuEH075C73
86667	C2012	04	26.83006	13	21	33.44	-03	49	10.0	17.0	VuEH075C73
86667	C2012	04	26.83086	13	21	33.26	-03	49	07.5	17.0	VuEH075C73
86667	C2012	04	26.83167	13	21	32.98	-03	49	05.0	16.8	VuEH075C73
86667	C2012	04	26.83247	13	21	32.79	-03	49	02.7	17.0	VuEH075C73
86667	C2012	04	26.83326	13	21	32.55	-03	48	59.9	16.9	VuEH075C73
86667	C2012	04	26.83406	13	21	32.36	-03	48	57.3	16.9	VuEH075C73
86667	C2012	04	26.83487	13	21	32.14	-03	48	54.8	17.0	VuEH075C73
86667	C2012	04	26.83567	13	21	31.90	-03	48	51.9	17.0	VuEH075C73
86667	C2012	04	26.83647	13	21	31.70	-03	48	49.8	16.8	VuEH075C73
86667	C2012	04	26.83728	13	21	31.48	-03	48	47.3	17.1	VuEH075C73
86667	C2012	04	26.83808	13	21	31.23	-03	48	44.5	17.1	VuEH075C73
86667	C2012	04	26.83888	13	21	31.03	-03	48	42.1	16.9	VuEH075C73
96590	C2011	03	21.82795104	38		55.88	+45	38	12.3	18.0	RuEH075C01
96590	C2011	03	21.87123804	39		00.58	+45	38	10.0	18.0	RuEH075C01
96590	C2011	03	21.87289404	39		00.81	+45	38	09.9	17.9	RuEH075C01
D6874	C2012	04	26.40551	13	38	57.310-04		51	50.64	21.1	rLEH075F51
D6874	C2012	04	26.41607	13	38	56.708-04		51	46.57	20.8	rLEH075F51
E1531	KC2012	04	26.89877	13	53	51.11	-01	47	51.0	19.3	VuEH075A13
E1531	KC2012	04	26.94182	13	53	39.97	-01	48	19.9	19.2	VuEH075A13
E4861	C2012	04	26.46984	14	13	40.982+32		47	46.24	20.5	rLEH075F51
E4861	C2012	04	26.48042	14	13	40.170+32		47	52.41	20.4	rLEH075F51
E4861	C2012	04	26.49251	14	13	39.231+32		47	59.06	20.1	iLEH075F51
E4861	C2012	04	26.50410	14	13	38.344+32		48	05.55	20.0	iLEH075F51
F2889	C2012	04	26.45116	15	04	25.170+48		52	14.97	20.2	rLEH075F51
F2889	C2012	04	26.46138	15	04	24.074+48		52	22.91	20.2	rLEH075F51
I6822	C2012	04	26.40250	13	14	13.353-04		24	38.31	20.0	rLEH075F51
I6822	C2012	04	26.41306	13	14	12.388-04		24	27.57	19.8	rLEH075F51
I9008	C2012	04	26.40371	13	14	51.980-07		54	28.57	18.9	rLEH075F51
I9008	C2012	04	26.41426	13	14	50.967-07		54	24.45	18.8	rLEH075F51
Q3976	C2012	04	25.77515	11	45	19.23	+42	34	01.6	18.5	woEH075C41
Q3976	C2012	04	25.79751	11	45	18.52	+42	33	23.7	18.4	woEH075C41
S4114	C2008	10	23.84334522	41		41.87	+36	55	13.9	17.1	RuEH075C01
S4114	C2008	10	23.84429422	41		41.90	+36	55	13.8	17.1	RuEH075C01
S4114	C2008	10	23.84525522	41		41.97	+36	55	13.9	17.1	RuEH075C01
V2473	C2012	04	26.86999	14	01	59.24	-07	30	25.6	16.5	VuEH075C73
V2473	C2012	04	26.87080	14	01	59.22	-07	30	24.5	16.4	VuEH075C73
V2473	C2012	04	26.87161	14	01	59.20	-07	30	23.0	16.5	VuEH075C73
V2473	C2012	04	26.87241	14	01	59.18	-07	30	21.8	16.4	VuEH075C73
V2473	C2012	04	26.87322	14	01	59.17	-07	30	20.3	16.4	VuEH075C73
V2473	C2012	04	26.87402	14	01	59.14	-07	30	19.2	16.7	VuEH075C73
V2473	C2012	04	26.87483	14	01	59.13	-07	30	17.6	16.6	VuEH075C73
V2473	C2012	04	26.87562	14	01	59.11	-07	30	16.5	16.6	VuEH075C73
V2473	C2012	04	26.87644	14	01	59.09	-07	30	15.2	16.5	VuEH075C73
V2473	C2012	04	26.87723	14	01	59.09	-07	30	13.8	16.5	VuEH075C73
V2473	C2012	04	26.87803	14	01	59.07	-07	30	12.3	16.5	VuEH075C73
V2473	C2012	04	26.87884	14	01	59.04	-07	30	11.1	16.4	VuEH075C73
V2473	C2012	04	26.87964	14	01	59.03	-07	30	09.8	16.7	VuEH075C73
V2473	C2012	04	26.88044	14	01	59.02	-07	30	08.4	16.5	VuEH075C73
V2473	C2012	04	26.88125	14	01	58.99	-07	30	07.2	16.6	VuEH075C73
V2473	C2012	04	26.88205	14	01	58.97	-07	30	05.7	16.5	VuEH075C73
V2473	C2012	04	26.88285	14	01	58.96	-07	30	04.5	16.5	VuEH075C73
V2473	C2012	04	26.88366	14	01	58.94	-07	30	03.2	16.6	VuEH075C73

## New natural satellite orbits:

Object	H	Epoch	M	Peri.	Node	Incl.	e	a	Arc	C
S009S	6.6	K123E	88.154	2.622	267.605	173.018	0.17290	0.08642	41522	X

A. U. Tomatic

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